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Military Hospitals*

By

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The Surgeon General of the Army

ONE of the important phases of the mission of the Medical Services of the Armed Forces is the maintenance and operation of hospitals. I would like to present some photographs illustrating hospitals of the past, present and future.

During the Civil War, when the Army of the Potomac was defending Washington such hospitals as these were established in Washington (Fig. 1). This hospital was called "Soldiers Rest." This photograph (Fig. 2) is that of a General Hospital used in the Civil War. This is Carver General Hospital, Washington, D.C. The diagram (Fig. 3) of Mower Hospital constructed at Chestnut Hill, Pennsylvania, also shows a type of hospital used during the Civil War.

In 1866, the U. S. Navy built a structure at 9th and Pennsylvania Avenue, S. E., in Washington, D.C. (Fig. 4). This hospital was utilized until 1894 when the Old Naval Observatory buildings at 23rd and E Streets were turned over to the Bureau of Medicine and Surgery for use as a hospital (Fig. 5). This building was used as a hospital until 1942 when the U. S. Naval Hospital, Bethesda, Maryland, was constructed at the National Naval Medicine Center.

Prior to World War II, the hospitals of the Army and the Army Air Corps as it was then known, were usually small. Typical of these is the Bolling Air Force Base Hospital (Fig. 6) and the former Station Hospital, Fort Belvoir, Virginia (Fig. 7).

When mobilization came in 1940, it was necessary to expand these facilities to meet mobilization requirements. This expansion could be accomplished occasionally by conversion of existing facilities, such as the permanent barracks at Brooke Army Medical Center (Fig. 8), but usually by construction of new facilities of a temporary type.

Three types of temporary hospitals were constructed by the Army during World War II. Typical of World War II emergency wood construction was the hospital built at Bolling Air Force Base (Fig. 9), also Lovell General Hospital, Fort Devens, Massachusetts (Fig. 10). Some of these one story hospitals were built of masonry rather than wood. This photograph (Fig. 11) of Madigan Army Hospital at Ft. Lewis, Washington, shows one of these hospitals. To give you an idea of the size of these one story hospitals, I might say that the 1000 bed hospitals occupied 75 acres and were about ¼ mile from one end to the other end.

This one-story hospital was so widely dis-

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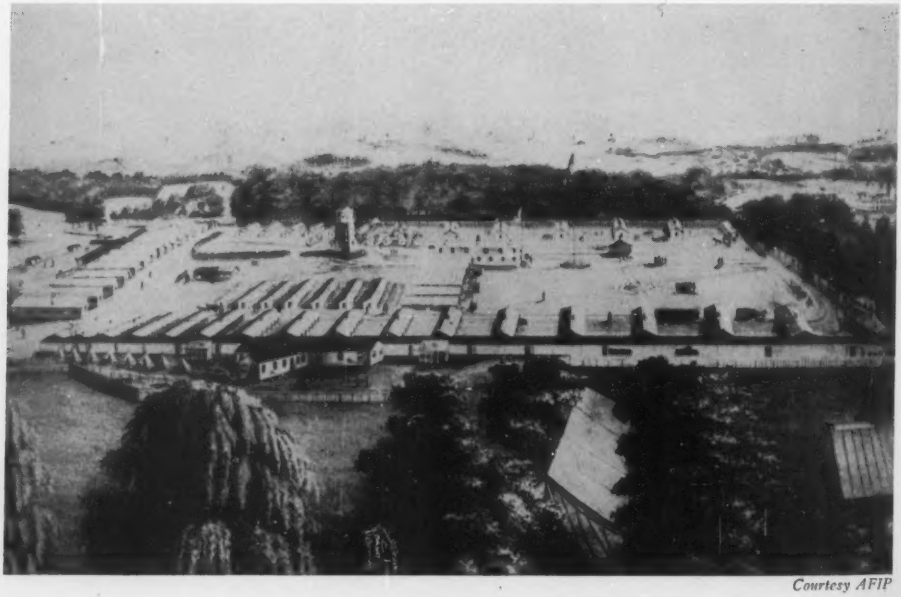
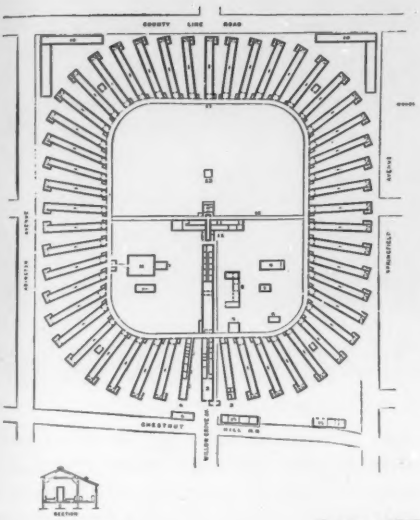
Courtesy AFIP

FIG. 1. Soldiers Rest, Washington, D.C.



Courtesy AFIP

FIG. 2. Carver General Hospital, Washington, D.C.



Courtesy AFIP

FIG. 3. Diagram of Mower Hospital, Chestnut Hill, Pa.

persed and was so expensive in personnel, it was deemed necessary to develop another design. As a result a hospital was designed using two-story buildings with masonry exterior walls and wood frame interior. This photograph (Fig. 12) of Fort Carson, Colorado, shows this type of construction.

The situation today is that the Armed Forces are still using many of the temporary-type hospitals such as I have just shown or pre-World War II hospitals of permanent-type construction.

Courtesy AFIP

FIG. 5. U. S. Navy Hospital, 23rd & E Sts. N.W., Washington, D.C. (One of several buildings)

Examples of the best of the existing pre-World War II hospitals of permanent-type construction are Fitzsimons Army Hospital, Denver (Fig. 13), Brooke Army Hospital, San Antonio (Fig. 14), U. S. Naval Hospital, Philadelphia (Fig. 15).

Since the beginning of World War II there have been a limited number of new hospitals constructed for the Armed Forces such as the U. S. Naval Hospital, Bethesda, Maryland (Fig. 16); Tripler Army Hospital, Hawaii (Fig. 17); U. S. Naval Hospital, Beaufort, South Carolina (Fig. 18); U. S. Navy Hospital, Guam (Fig. 19); and the U. S. Air Force Hospital, Elemendorf Air Force Base, Alaska (Fig. 20).

World War II hospitals of temporary construction as well as some of the older hospitals of permanent-type construction urgently

Courtesy AFIP

FIG. 4. Old U. S. Navy Hospital, 9th & Pa. Ave., S. E. Washington, D.C.

Courtesy AFIP

FIG. 6. Former Hospital, Bolling Air Force Base, Washington, D.C.

Courtesy AFIP

FIG. 7. Former Station Hospital, Ft. Belvoir, Va.

Courtesy AFIP

FIG. 8. Permanent Barracks, Brooke Army Medical Center, Fort Sam Houston, Texas

need replacement. Attempts have been made to improve these sub-standard facilities and some improvements are possible through alterations and the installation of modern equipment.

A replacement program was started in Fiscal Year 1952 when the first increment of replacement hospitals was authorized. These hospitals are being constructed in accordance with uniform basic plans adopted by the Department of Defense. These photographs of the architect drawings show the types of hospitals which will be constructed. These photographs show views of standard hospital: figure 21 a 75/150-bed; figure 22 a 150/300-bed; figure 23 a 250/500-bed; and figure 24 a 500-1000-bed hospital.

The first figure given is the normal capacity which can be expanded to the second figure, there being adequate facilities in the building to take care of the additional load.

I know many of you have heard of these hospitals for a number of years and have

Courtesy AFIP

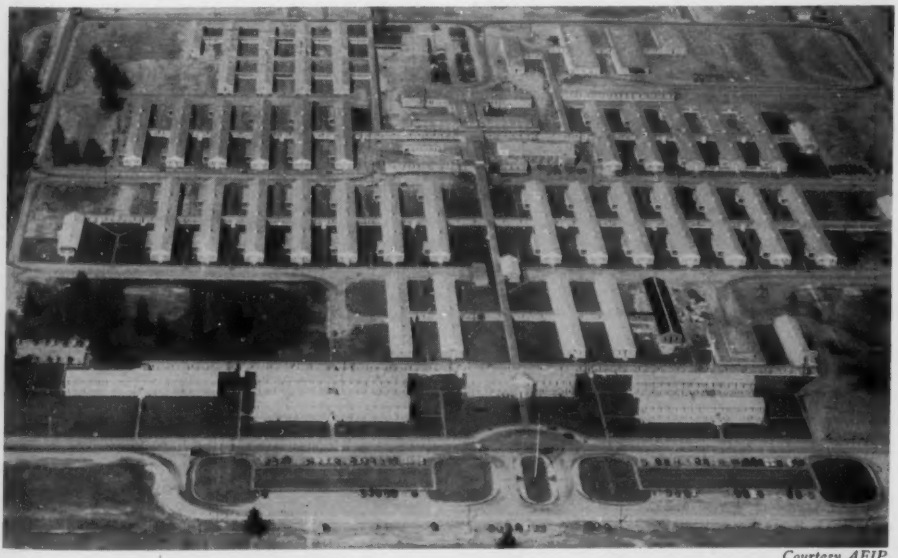
FIG. 9. Typical World War II Emergency type wood construction hospital, Bolling Air Force Base, Washington, D.C.

Courtesy AFIP

FIG. 10. Lovell General Hospital, Fort Devens, Mass.

wondered when they are to become realities. To show that some of the hospitals are under construction, I have photographs showing the progress at three stations. This is a photograph of the hospital at Wright-Patterson Air Force Base, 300/500-beds (Fig. 25). A 250-bed hospital being constructed at Fort Belvoir, Virginia, is shown in this photograph (Fig. 26). This picture (Fig. 27) shows the construction at Fort Knox, Kentucky, of a 500-bed hospital.

This replacement program has not stopped with the FY-1952 program but has continued through the FY-1956 program. During this period, the armed services have programmed the construction of some 10,821 beds. These beds may be broken down in the following manner (Fig. 28): The Department of the Air Force—44 hospitals having a total bed capacity of 5,981 beds; The Department of the Army—nine hospitals with a bed capacity of 2,940; The



Courtesy AFIP

FIG. 11. Madigan Army Hospital, Fort Lewis, Wash.

Courtesy AFIP

FIG. 12. U. S. Army Hospital, Fort Carson, Colo. (A two story hospital)

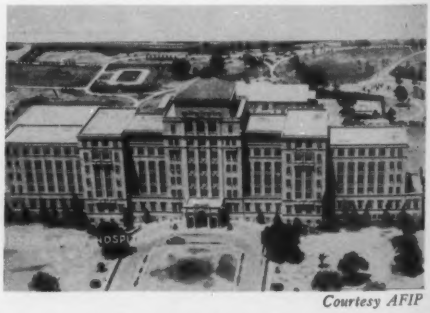
Department of the Navy—three hospitals having a total bed capacity of 1,900 beds. It is hoped that this replacement program will continue in subsequent fiscal years.

The FY-1957 construction program for the three armed services is currently being reviewed in the Department of Defense. The Department of the Air Force has proposed the inclusion of 14 more hospitals in this program, having a total capacity of 1,350 beds. The program of the Department of the Army includes 1,150 beds in two hospitals. The Department of the Navy has an 800/1500-bed hospital in its program. If these hospitals receive favorable consideration by the reviewing agencies, they will be included in the Public Works Legislation presented to the Congress after the first of the year (1956).

In conclusion, there is a requirement to replace old and obsolete hospitals, these hospitals being primarily temporary hospitals of World War II or old permanent

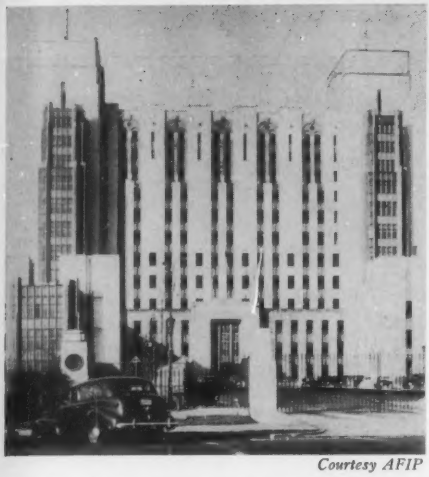
Courtesy AFIP

FIG. 13. Fitzsimons Army Hospital, Denver, Colorado



Courtesy AFIP

FIG. 14. Brooke Army Hospital, Brooke Army Medical Center, Fort Sam Houston, Texas



Courtesy AFIP

FIG. 15. U. S. Navy Hospital, Philadelphia, Pa. (Approx. 1700 beds)

Courtesy AFIP

FIG. 16. U. S. Navy Hospital, National Naval Medical Center, Bethesda, Md.

Courtesy AFIP

FIG. 17. Tripler Army Hospital, Honolulu, Hawaii

Courtesy AFIP

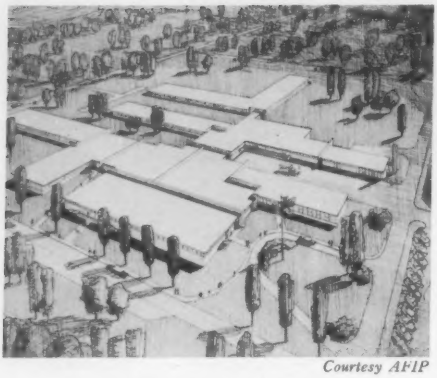
FIG. 18. U. S. Navy Hospital, Beaufort, S.C. (Approx. 300 beds)

Courtesy AFIP

FIG. 19. U. S. Navy Hospital, Guam, M.I. (Approx. 350 beds)

Courtesy AFIP

FIG. 20. U. S. Air Force Hospital, Elemendorf Air Force Base, Anchorage, Alaska



Courtesy AFIP

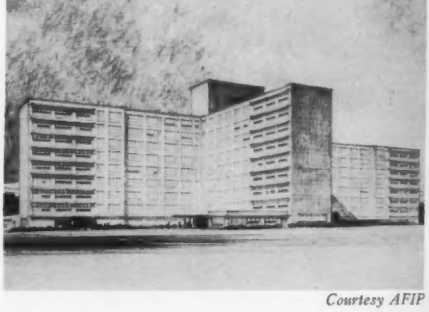
FIG. 21. Standard Basic Hospital (75/150 Beds)

Courtesy AFIP

FIG. 22. Standard Basic Hospital (150/300 Beds)

Courtesy AFIP

FIG. 23. Standard Basic Hospital (250/500 Beds)



Courtesy AFIP

FIG. 24. Standard Basic Hospital (500/1000 Beds)

Courtesy AFIP

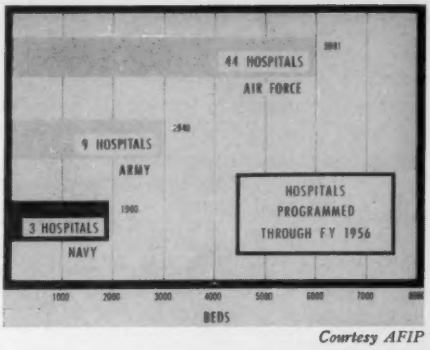
FIG. 25. U. S. Air Force Hospital, Wright-Patterson Air Force Base, Dayton, Ohio.

Courtesy AFIP

FIG. 26. U. S. Army Hospital, Ft. Belvoir, Va. (under construction). (250/500 Beds)

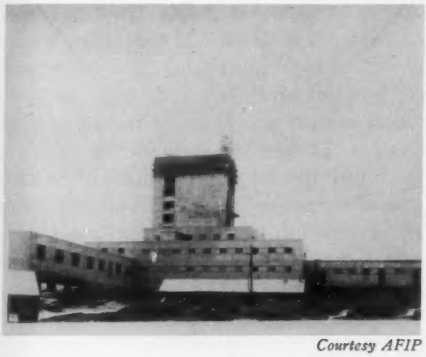
facilities constructed prior to World War II. Such a program was initiated with the Fiscal Year 1952 program. These hospitals now under construction will be equipped with the finest of modern equipment available.

Lastly, let me show you a photograph of one of our Army hospitals now in use (Fig. 29). This is Rodriguez Army Hospital at San Juan, Puerto Rico. It was built in 1754 by the Spaniards as a part of the military defenses of San Juan Bay. It has recently been rehabilitated, refurbished and re-equipped and today it is an adequate hospital and will be for many years to come.



Courtesy AFIP

FIG. 28. Beds Programmed in Military Service Hospitals, Fiscal Year 1956



Courtesy AFIP

FIG. 27. U. S. Army Hospital, Fort Knox, Ky. (500/1000 Beds)

Courtesy AFIP

FIG. 29. Rodriquez Army Hospital, San Juan, P.R.

AERO MEDICAL ASSOCIATION MEETING

APRIL 16, 17, AND 18, 1956

Drake Hotel, Chicago, Illinois

Management of the Thoraco-Abdominal Casualty in the Combat Zone

By

LIEUTENANT COLONEL H. HASKELL ZIPERMAN, M.C., *U. S. Army*†

THE thoraco-abdominal casualty is one of the most severely wounded casualties requiring treatment in a combat zone. Unless this therapy is properly conceived and expertly administered, this casualty is more prone to become a DOW (died of wounds) statistic than most others, for imposed on the severity of his intra-abdominal trauma are the debilitating effects of cardiac and respiratory imbalance secondary to his chest wound. Although many of the principles and practices of treatment of these casualties are based on the experiences of combat surgeons in World War II, these were modified and, in certain instances, completely changed by the experiences of the author and other combat surgeons in the Korean War. It seems wise to review the currently acceptable principles of management of these casualties in order to acquaint all surgeons with these changing concepts so that in the event of a future war the institution of proper treatment practices will serve to prevent death and disability.

DEFINITION

A thoraco-abdominal wound is one in which both the pleural and peritoneal cavities are entered by the missile or missiles causing the trauma. Necessarily this implies a perforation or laceration of the diaphragm through which the missile must pass in order to reach one cavity from the other. Because the normal attitude of the soldier in combat is to orient himself towards the enemy either in the crouched position moving forward or the prone position when firing or lying motionless, it is to be expected that the largest number of these missiles will enter the chest first and then pass into the peritoneal cavity. This is borne out by the series of 903 thoraco-abdominal wounds reported by Wylie and co-authors[1] in World War II. Eight hundred and thirty-seven (837) of these casualties demonstrated a wound of entrance in the chest with subsequent penetration of the peritoneal cavity, while only 66 showed a wound of entrance in the abdomen associated with a fragment retained within the pleural cavity. According to Tudor Edwards' classification[2] the latter are listed as abdomino-thoracic wounds. A smaller group of wounds are those in which both the pleural and peritoneal cavities are wounded but by separate missiles. These are commonly referred to as combined thoracic and abdominal wounds and, of course, demonstrate no accompanying perforation of the diaphragm. Sanger[3] reported 6 of these in a total of 103 thoraco-abdominal wounds.

INCIDENCE

Because the mortality of thoraco-abdominal wounds is most frequently that of the abdominal component of the wound, it has become the practice to quote the incidence of these wounds in terms of per cent of the abdominal wounds in any series. Thus, in any war, before one can evaluate the true incidence of thoraco-abdominal wounds, one must know the frequency incidence of abdominal wounds. In Korea in 1952, a tabulation of 908 casualties who were not wearing body armor showed the incidence of abdominal wounds to be 6.6 per cent. A similar study of 552 soldiers who were wounded while wearing body armor showed the regional frequency of abdominal wounds to be 2.5 per cent. A more exhaustive study of the regional frequency of wounds in Korea[4] demonstrated that among the wounded in action (WIA) the regional frequency of abdominal wounds dropped from 11 per cent

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to 10.8 per cent with the use of body armor and, among the killed in action (KIA), it dropped from 9.2 per cent to 6.0 per cent with the use of body armor. Since this same report showed that the combined frequency of thoracic and abdominal wounds among WIA dropped from 30.0 per cent to 19.5 per cent with the use of the armored vest, it could be assumed that a drop in the frequency of thoraco-abdominal wounds is to be expected. This is not borne out by incidence statistics from the Surgical Research Team in Korea,[5] which reported 129 thoraco-abdominal wounds among 402 abdominal casualties—an incidence of 32.0 per cent. This compares with 903 thoraco-abdominal wounds among 3,532 abdominal casualties from Wylie's series in World War II—an incidence of 25.5 per cent. It must be remembered, however, that many of the casualties reported by the Surgical Research Team had been cared for prior to the adoption of the armored vest by all combat personnel. In addition, many other factors such as the type of terrain, type of weapon used, and the position of the casualty at the time of wounding affect the frequency distribution of wounds.

Because there is an expected and predictable difference in mortality between right and left sided thoraco-abdominal wounds, it is important to consider the differential incidence of these two. Essentially this difference stems from the fact that the liver acts as a cushioning agent for missiles striking the right side. Many of these missiles are slowed or stopped—thus preventing damage to other abdominal organs whose mortality either alone or in combination is higher than that for liver wounds. In World War II the Second Auxiliary Surgical Group reported 435 right sided thoraco-abdominal wounds with a mortality of 24 per cent and 448 left sided thoraco-abdominal wounds with a mortality of 30 per cent. In the Korean experience from the Surgical Research Team there were 72 right and 57 left thoraco-abdominal wounds. In both series, the liver with its lower mortality was the most frequently wounded of the abdominal organs.

Factors Influencing Mortality

Combat Trained Surgical Personnel. Theoretically the surgical care of the combat wounded at the start of each new war takes up just where the experience of the last war leaves off. Actually each new war in which the United States has engaged has caught us off guard so that our medical organization for combat had to be rebuilt. Most important in this rebuilding was the need for gathering together a nucleus of medical officers with combat experience to supervise and direct the professional work of the inexperienced surgeon. Obviously when there is a long interval between wars, very few combat experienced surgeons from the earlier war will be available for or be able to carry out a field assignment in the later war. We must depend then on the medical literature to carry over the basic principles and practices so laboriously learned. Unfortunately, however, the end of a war brings with it loss of interest on the part of most physicians in keeping up with or even reading of the latest advances in combat surgery. Since opportunities for the practice of traumatic surgery are relatively limited in the average civilian surgical practice or even in the peacetime Army, we are faced with one or more generations of surgeons who are relatively ignorant of the basic principles and practices of combat surgery.

Each new war has found us going back to principles of combat surgery which have been tried and discarded in the preceding war. Furthermore, without actual prior combat experience, it has been estimated that each new surgeon in a combat zone needs at least 4 to 6 weeks of surgical experience with casualties before he can successfully apply the didactically learned knowledge he has acquired in preparation for his work in a surgical hospital. Many surgical consultants formerly assigned to combat theaters are in agreement that new surgeons and hospitals in the combat zone can be traced by their trail of inadequately debrided and infected wounds.

Because the time interval between World

War II and Korea was short, a whole generation of vigorous and able combat trained surgeons was available for help and advice as consultants during the Korean conflict. As a result, there was less professional fumbling and the application of fewer outmoded principles at the start of the Korean War than was true with previous wars. This aided in establishing an initial low mortality and eventuated in a mortality reduction of approximately 50 per cent among DOW as compared with World War II.

Type of Warfare. Many other factors were also responsible for mortality reduction among thoraco-abdominal casualties in Korea. One of the most important of these was the static type of warfare which existed for so long. As a result of this lack of mobility, with conflict frequently limited to patrol activity, medical installations rarely were required to move. Thus they were always well organized for the reception of casualties and a minimum amount of time was lost between admission and surgery. Furthermore, their location was so well known and the roads to them so improved that little time was lost in transit. This factor coupled with United Nations air control—which permitted non-traumatic, speedy helicopter evacuation of the high priority, seriously wounded—enabled us to achieve a remarkable decrease in time lag between wounding and surgery. As pointed out by the author[6] in a group of patients with vascular wounds, surgical time lag was reduced to 9.95 hours in Korea as compared with a time lag of 15.2 hours for a similar group of casualties reported by DeBakey and Simeone[7] in World War II. In many instances, in Korea, this time lag reduction resulted in the reception of and treatment of abdominal and thoraco-abdominal casualties within the so-called "golden period."

Utilization of Antibiotics. Another important factor in mortality reduction among all casualties, in Korea, was the availability and widespread use of antibiotics. The statistics of the Second Auxiliary Surgical Group on thoraco-abdominal wounds in the Second World War show that coincident with the use of penicillin there was a drop of 10 to 15 per cent in mortality. This by no means illustrates that antibiotics are a substitute for the application of sound principles and practices in the initial surgery of casualties. Antibiotics, instead, are a means of supplementing good surgery and extending its principles. Adequate supplies of all antibiotics were readily available in Korea and were extensively used. It became routine, in fact, for every casualty to receive penicillin at Battalion Aid Stations and this was supplemented, where indicated, by the broad spectrum antibiotics. In a study of wound healing among casualties of the Korean conflict[8] it was found that every one of 160 consecutive casualties received at a general hospital in Japan had received penicillin at a Battalion Aid Station. Late in the war it was decided that in order to achieve more rapid and effective blood levels a change should be made to the intravenous injection of larger doses of crystalline penicillin at Battalion Aid Stations. This mode of administration, during the last few months of the Korean War, began to supplant the intramuscular use of long acting penicillin solutions.

Fluid Replacement. The other great factor in the decreased mortality of the Korean conflict was the more liberal use of blood replacement. As pointed out by Artz[9] in his report from the 46th Mobile Army Surgical Hospital (MASH), an average of 7 pints of blood was administered to all abdominal casualties preceding, during, and subsequent to initial surgery. This blood replacement was over and above an average of 1 pint of resuscitative fluids received by the moderately wounded and 3 pints of resuscitative fluids received by the severely wounded prior to evacuation to a surgical hospital. This is in contrast to the report from the Second Auxiliary Surgical Group in which 455 casualties with thoraco-abdominal injuries received 525 cc. of plasma each and 144 casualties had received no plasma prior to evacuation. Six hundred and nineteen (619) patients received only 1100 cc. of blood in the

shock tent of the Second Auxiliary Surgical Group and 60 casualties did not receive any.

Diagnosis

The diagnosis of the thoraco-abdominal wound may be obvious—as when evisceration of abdominal organs or omentum through an abdominal wound of exit is seen in the presence of a wound of entrance in the chest. In most instances the diagnosis is not this obvious but must be based on clinical signs, locations of wounds, and x-ray examinations.

Perhaps the greatest single aid in diagnosis is the presence of wounds of entrance and exit so that the trajectory of the missile through the trunk may be plotted and shown to perforate both pleural and peritoneal cavities. In the absence of an exit wound, antero-posterior and lateral x-ray examination of chest and abdomen become the most important diagnostic modality. Knowing the location of the entrance wound, the trajectory of the missile can be plotted by its localization within the body. Obviously, all casualties with a wound of the chest in whom a missile can be found below the diaphragm have suffered a thoraco-abdominal injury. By plotting the trajectory of the missile, a fairly accurate estimate of organs damaged can also be made.

It is a well-known fact that abdominal splinting and pain are frequently present in injuries of the pleura or lung, especially when the trauma is in proximity to the diaphragm. Gordon-Taylor[10] describes a means of differentiating between the abdominal splinting associated with chest wounds and that with abdominal trauma in which the most important criterion is the bilaterality of the splinting with abdominal injury. This sign may, however, be completely absent in casualties in shock and the abdominal splinting may be completely localized to one side even with fairly extensive intra-abdominal trauma.

Peristalsis is usually absent in casualties with intra-abdominal injuries, especially where hollow viscera have been perforated. Betts,[11] however, mentions 2 cases in his series in which peristalsis was present in spite of wounds of the colon and remarks that he frequently found peristalsis where casualties had suffered wounds of spleen and liver.

It was routine in Korea where damage to abdominal viscera was suspected to pass a Levine tube both to empty the stomach and as an aid in making the diagnosis of upper gastro-intestinal tract damage. In the absence of maxillo-facial wounds, blood aspirated from the stomach indicated a wound of the esophagus, stomach, duodenum, or upper jejunum. Where indicated by the proximity of the missile tract to the genito-urinary system, a urethral catheter was passed. Bloody urine indicated damage to the urinary tract and might, therefore, be an aid in determining whether or not a thoraco-abdominal injury with concommitant kidney or ureteral damage existed.

Although conservatism was the rule in doubtful cases among the British in World War II, it was our feeling both in World War II and in Korea that doubtful cases should be explored. While it is true that this policy led to some negative explorations, it was felt that with abdominal and thoraco-abdominal casualties this was more conservative than watchful expectancy. In Korea, it is estimated that not more than 2 per cent completely negative laparotomies were performed. Pearson and co-authors[12] in World War II reported 8 per cent negative laparotomies among 303 suspected abdominal casualties.

In doubtful thoraco-abdominal cases it occasionally was felt advisable to enlarge the missile wound of the chest wall at the time of debridement to ascertain whether a wound of the diaphragm was present. When found, the presence of a diaphragmatic laceration was used as an indication for definitive laparotomy. In doubtful abdomino-thoracic wounds it was occasionally necessary to debride the entrance wound to determine whether the missile had penetrated the peritoneum. This proof of peritoneal penetra-

tion was an absolute indication for laparotomy in the absence of all other symptoms and signs.

Treatment

Generally speaking, this type of casualty is one of the most severely wounded of any casualty seen in the high priority surgical hospital near the battle line for, in addition to the physiologic imbalance produced by the intra-abdominal bleeding and contamination of the peritoneum, there is the superimposed cardiorespiratory imbalance of the intrapleural trauma. These factors influence not only the preoperative care in the receiving section of the surgical hospital but also the emergency medical treatment needed to render the casualty transportable from Battalion Aid Stations to high priority hospitals in the combat zone.

Emergency Medical Treatment. According to Beebe and DeBakey[13] approximately 23 per cent of all wounded in World War II during the period 7 December 1941 to 31 December 1945 were killed in action. This figure of 1 soldier killed in action for every 4 wounded has remained remarkably constant since the Civil War and, prior to the introduction of the armored vest, could be considered to be an irreducible minimum. The vest is designed to stop fragments traveling slower than a specific velocity and will slow down those missiles which it cannot defeat. This insures a reduction both of the number of wounds in the vital area of chest and abdomen and also of the severity of wounds in these regions. Holmes[14] in a listing of the regional frequency of wounds among killed in action (KIA) records wounds of the thorax and abdomen together as accounting for 35 per cent of all KIA. With the ability of the vest to defeat or to slow down missiles, it is probable that a certain per cent of casualties previously recorded as killed in action will in any future war be converted to severely wounded. This will serve to throw an additional burden of life-saving on those installations practicing emergency medical treatment, for unless their therapy is adequate, these casualties will die before they can reach an installation practicing definite surgical care in the field.

The bulk of the emergency medical care for thoraco-abdominal casualties consists of those measures designed to correct actual or impending shock and to correct the cardiorespiratory imbalance secondary to the intrapleural damage. After hemorrhage is controlled, adequate fluid replacement by blood, dextran, or serum albumen—if given in adequate quantities to replace estimated blood loss—will return blood pressure and pulse to levels (blood pressure 80-100 systolic, pulse 100-120) considered suitable to enable the casualty to be evacuated. Care must be taken not to overhydrate these casualties for they are particularly prone to develop pulmonary edema. In some of these casualties, restoration of relatively normal cardiorespiratory physiology will aid in bringing them out of shock.

Many measures designed to correct cardiorespiratory imbalance may be employed in the field. Of these, the most familiar to all is the fact that all sucking chest wounds must be sealed with an air-tight dressing. Another measure of great importance but not frequently enough employed in the division area in Korea is thoracentesis. Most, if not all, casualties with thoracic and thoraco-abdominal wounds have some degree of hemothorax or hemopneumothorax. As pointed out by Snyder,[15] 90 per cent of 1210 thoracic casualties required only thoracentesis to restore cardiorespiratory physiology to normal. Where indicated by dyspnea, cyanosis, or other evidence of respiratory embarrassment, thoracentesis should be employed. Occasional casualties with evidence of tension pneumothorax may require a needle and flutter valve arrangement in the second intercostal interspace to render them transportable. Under no circumstance should a casualty be transported with an underwater seal intercostal tube in place because of the danger of inadvertently spilling this water into the pleural space.

The first aid man and the battalion surgeon in Korea had learned well the problems connected with the use of adequate quantities

of blood and plasma expanders in resuscitation. He knew when and how to apply an air-tight dressing to a sucking chest wound. Although he was conversant with the use of opiates in the relief of pain, he tended to use larger quantities than were needed and forgot that these substances, especially in casualties in shock, were more efficacious when given intravenously. He was especially hesitant to restore respiratory physiology to normal by the judicious use of thoracentesis where indicated.

Preoperative Treatment. The preoperative care of the thoraco-abdominal casualty consists largely in continuing measures started in Battalion Aid Stations for the restoration of normal cardiorespiratory physiology and for the treatment of shock. The institution of these procedures is frequently accomplished simultaneously with others designed to aid in establishing a diagnosis. Typically the thoraco-abdominal casualty on arrival at a surgical hospital is immediately inspected for location of wounds and degree of respiratory embarrassment. A coincident check of blood pressure and pulse is made and where indicated type "O" universal donor blood by transfusion is begun at the rate and in the quantity indicated by estimated blood loss. As previously pointed out, more adequate blood replacement was practiced in Korea than in World War II. In a group of 29 thoraco-abdominal casualties treated by the Surgical Research Team in Korea, an average of 1300 cc. of blood was used preoperatively. It was found both in World War II and Korea that a good arbitrary criterion for adequacy of fluid replacement in all combat casualties is a systolic blood pressure of 100 mm. and a pulse of 120 or lower associated with improvement in the casualty's general physical condition. A tilting board enabling the surgeon to raise and lower the upper part of the body of the casualty as a check on stability of blood pressure and adequacy of resuscitation looks promising as a means of determining adequacy of fluid replacement.

Respiratory embarrassment is treated by indicated means. Where it is secondary to hemothorax, pneumothorax, or hemopneumothorax, thoracentesis repeated as needed is the procedure of choice. Closed tube drainage of fluid accumulations in the pleural cavity is more likely to produce infection with subsequent "captive lung" requiring decortication. Valle[16] pointed out that 92 per cent of his casualties who required decortication in Japan had had closed intercostal tube drainage instituted in Korea. Tension pneumothorax is easily controlled by a needle and flutter valve until the casualty can be readied for surgery, at which time other measures will have to be instituted. Limitation of respiratory motion as a cause of dyspnea and cyanosis can be eliminated by intercostal block with 1 per cent procaine, being certain to block not only the involved intercostal bundles but also the two above and below the site of injury. Opiates for the relief of pain are held to a minimum in the preoperative period in both thoracic and thoraco-abdominal casualties for the reasons that they produce respiratory depression, are no more effective than intercostal block, and tend to produce cardiovascular depression upon anesthesia induction.

The measures described in the section on diagnosis are utilized during this preoperative period in order to establish a definite diagnosis. Whenever possible, the surgeon should attempt to establish to his own satisfaction the intraperitoneal organ damage to be expected for this will determine the placement of the abdominal incision and the priority with which he will care for the damaged organs. Any movement of the casualty should be gentle and under no circumstances should he be removed from his litter because these severely wounded tolerate movement badly. It became the practice in Korea to leave the casualty on his litter at all times until he recovered from anesthesia.

Operative Treatment. The initial surgery of the severely wounded is not emergency surgery—it is instead urgent surgery practiced on casualties who, because of adequate preoperative preparation, can withstand its rigors. Inadequate preparation of the casualty for surgery due to unwarranted haste results in lack of stabilization of the cardiovascular

system and will produce a high operative mortality rate. Haste is warranted only in the occasional casualty whose condition continues to deteriorate in spite of what is considered to be adequate fluid replacement. Here the cause is usually continued bleeding from a source within the peritoneal cavity, and laparotomy is a do-or-die effort to control the bleeding before the patient expires. It is undertaken with the knowledge that death is inevitable without surgery and that it may occur during surgery before the bleeding points are found and controlled.

Beecher[17] demonstrated the importance of the careful selection and administration of anesthetic agents. He emphasized the fact that ether is the agent of choice for the seriously wounded, especially those who require major thoracic or abdominal surgery. Pentothal Sodium® should be avoided for prolonged procedures (more than ½ hour) and for those casualties who are in shock or in incipient shock. Ziperman[18] reported the high incidence of cardiac arrest among combat casualties in Korea (0.7 cases per 1000 operations) and attributed many of them to the injudicious and improper use of Pentothal Sodium®.

Generally speaking, the operative management of thoraco-abdominal casualties in Korea closely followed the principles and practices laid down in World War II. One important difference was practiced. Whereas in the earlier war the Second Auxiliary Surgical Group reported 362 of 903 thoraco-abdominal casualties were operated upon via thoracotomy alone, it is estimated that less than 5 per cent of all thoraco-abdominal casualties had this approach utilized in Korea. This change in approach was based on World War II estimates that 90 per cent of all thoracic casualties in the combat zone could be adequately managed by thoracentesis alone; on the fact that the mortality of thoraco-abdominal casualties is largely that of the abdominal component of the wound; and on the fact that few qualified chest surgeons were available during most of the Korean conflict.

It was our feeling in Korea that having done operatively through the chest whatever was necessary to restore normal respiratory and cardiovascular function, to include control of hemorrhage, expansion of the lung, repair of mediastinal structures, and diaphragmatic repair, the only adequate means of ascertaining the extent of intra-abdominal damage and repairing it was via laparotomy. Where it could be ascertained that the intra-abdominal damage was minor or that damage to only one or two organs existed and they were easily accessible through the diaphragm, the entire procedure was handled via thoracotomy. Where the intrapleural trauma was such as to require only thoracentesis for restoration of normal respiratory function, the initial surgery was carried out entirely via laparotomy. The combined thoraco-abdominal incision was rarely used in either war because of the instability of the chest wall produced by this incision.

In Korea then, the greatest mass of thoraco-abdominal casualties (approximately 85-90 per cent) were surgically treated by a combination of thoracentesis and laparotomy. The remainder of these casualties were treated by thoracotomy alone (5 per cent or less) or by a combination of thoracotomy and laparotomy (approximately 10 per cent). In this latter group, the specific indications for thoracotomy were:

1. Those thoracic and thoraco-abdominal casualties who showed evidence of perforation of a mediastinal structure. Thoracotomy was directed towards repair of these structures.

2. Those casualties who reaccumulated a massive hemothorax in spite of repeated thoracenteses which removed large quantities of blood. Thoracotomy was directed towards ligation of the bleeding vessels (usually found to be intercostal vessels).

3. Those casualties who rapidly reaccumulated large amounts of air in the pleural space in spite of repeated thoracenteses. The surgical effort was directed towards repair of the perforated trachea or bronchus.

4. Those casualties with wounds of the heart whose cardiac tamponade was not relieved by pericardicentesis.

With certain exceptions, the accepted treatment of the abdominal component of the wound parallels the surgical principles laid down in World War II. As was true in that war, it is felt that wounds of the colon should be exteriorized where possible. However, when a diverting colostomy is required, a spur type of colostomy for later crushing should not be considered. Because of the dangers inherent in crushing a poorly constructed spur and because later intraperitoneal closure of a colostomy is no longer considered to be fraught with the danger of causing peritonitis, spur construction is now avoided. To prevent feces from entering the distal bowel segment, the bowel ends should be separated by at least two inches of skin. All other wounds of the gastrointestinal tract—as in World War II—are treated by suture closure where possible or by resection plus anastomosis where indicated.

Except for wounds of the liver, drains are not placed in the peritoneal cavity. When placed, drains for liver wounds are not to be removed prior to the casualty's evacuation from the combat zone and in any event not short of 10 days to 2 weeks. On the other hand, recovery is hastened and morbidity is decreased by drains judiciously placed for wounds of the retroperitoneal space, especially where continued oozing causes large hematomata. Similarly, wounds of the kidney are drained in association with the practice of conservatism in regard to consideration of nephrectomy.

Postoperative Treatment. Postoperatively, it is found that recovery from the laparotomy is lengthened by the complicating chest wound and its altering effects on respiratory physiology. In those thoraco-abdominal casualties whose chest wounds are treated by thoracentesis and debridement only, repeated thoracenteses are required postoperatively to keep the pleural space dry and the lung expanded. Those casualties whose chest wounds are treated by definitive thoracotomy should have an intercostal tube with underwater seal anchored as an aid to the evacuation of fluid from the pleural space. Constant attention and care is required to maintain the patency of this tube. Tracheo-bronchial toilet with a catheter and suction is frequently necessary for the prevention and treatment of atelectasis. Occasionally intercostal block with 1 per cent procaine is required to relieve pain so that the casualty may clear the accumulated secretions from the tracheobronchial tree by his own efforts at coughing.

Postoperative management of the abdominal component of the wound varies with the organ damaged. Generally, early ambulation is practiced where practicable. In spite of continued antibiotic therapy, usually with a combination of penicillin and streptomycin and the broad spectrum antibiotics, some temperature elevation, abdominal tenderness, and delay in return of peristalsis is to be expected and so the Levine tube in the stomach should be connected to Wangensteen suction for several days. It was found in Korea that frequently these casualties tended to remain anemic and hypotensive postoperatively, especially where shock had been severe and it was found necessary to transfuse them with whole blood. In 29 thoraco-abdominal patients at the 46th MASH, an average of 400 cc. of blood was given during the first 24 hours postoperatively. Drains placed for liver or rectal wounds or for wounds of the retroperitoneal space should not be removed prior to evacuation of the patient to the rear. Where definitive thoracotomy has been performed, the thoracotomy tube is usually removed in 24-72 hours and the patient is never evacuated with a tube in place.

Mortality

The mortality associated with thoraco-abdominal wounds is in most instances a function of the abdominal component of the wound and varies directly with the severity of the intra-abdominal injuries. Generally speaking, the greater the number of abdominal viscera damaged the greater the degree of shock and the higher the mortality. This was adequately demonstrated by the Second Auxiliary Surgical Group in World War II and reiterated by the Surgical Research Team in

Korea. Other factors involved in determining this mortality are surgical time lag, type and number of organs involved, adequacy of resuscitation, availability and use of antibiotics, and trauma incident to the mode of evacuation.

A comparison of the experience of the 46th MASH with that of the Second Auxiliary Surgical Group shows that the mortality in 129 thoraco-abdominal injuries in the Korean conflict was 13.1 per cent compared with 27.3 per cent in World War II. Further analysis also shows that not only was the total case fatality approximately one-half that of the earlier war but the case fatality by involved organ was in the same range of 50 per cent. This in turn parallels the DOW mortality in Korea of 2.5 per cent compared with 4.5 per cent in World War II.

Summary

Changing concepts in the practice of medicine and surgery have improved the system of treatment of battle casualties in the combat zone. The thoraco-abdominal casualty, one of the most severely wounded of all casualties, can benefit greatly from these improvements provided they are properly conceived and expertly administered. A review of currently acceptable principles and practices reveals that a marked mortality reduction among thoraco-abdominal casualties in Korea was effected by decreasing the surgical time lag, by the utilization of antibiotics, and by a marked expansion in the use of whole blood and plasma volume expanders. Further reduction of mortality among these casualties was accomplished by improvement in means of diagnosis; speedy, atraumatic evacuation by helicopter; and by changes in the emphasis of surgical management to abdominal exploration as opposed to thoracotomy. Some changes in the acceptable surgical management of these casualties include avoidance of spur construction for colon wounds, separation of the bowel ends to produce a truly diverting colostomy, a definition of the proper use of intraperitoneal and extraperitoneal drains, and a definition of those conditions among thoraco-abdominal casualties which warrant thoracotomy in addition to laparotomy.

References

[1] Wylie, R. H., Hoffman, H. L., Williams, R. B., and Rose, W. F.: The thoraco-abdominal casualty. Ann. Surg. 124:463-478, 1946.

[2] Cope, Zachary: Surgery. H. M. Stationery Office, London, Eng., 1953, p. 182.

[3] Sanger, Paul W.: Evacuation hospital experiences with war wounds and injuries of the chest. Ann. Surg. 122:147-162, 1945.

[4] Holmes, R. H., Enos, W. F., and Beyer, J. C.: Medical aspects of body armor used in Korea. J.A.M.A. 155:1477-1478, 1954.

[5] Sako, Yoshio, Artz, C. P., Howard, J. M., Bronwell, A. W., and Inui, F. K.: A survey of evacuation, resuscitation, and mortality in a forward surgical hospital (in press).

[6] Ziperman, H. H.: Acute arterial injuries in the Korean War. Ann. Surg. 139:1-8, 1954.

[7] DeBakey, M. E., and Simeone, F. A.: Battle injuries of the arteries in World War II. Ann. Surg. 123:534-579, 1946.

[8] Ziperman, H. H., Liebovitz, A., Jordan, I.: Wound healing in combat casualties (in preparation).

[9] Artz, C. P., Bronwell, A. W., and Sako, Y.: Experiences in the management of abdominal and thoraco-abdominal injuries in Korea. Am. J. Surg. (in press).

[10] Cope, Zachary: Surgery. H. M. Stationery Office, London, Eng., 1953, p. 185.

[11] Betts, R. H.: Thoraco-abdominal injuries. Ann. Surg. 122:793-806, 1945.

[12] Pearson, R. W., Tuhy, J. E., and Welch, C. S.: Abdominal surgery in the evacuation hospital. Surgery 21:1-23, 1947.

[13] Beebe, G. W., and DeBakey, M. E.: Battle casualties. Charles C Thomas, Springfield, Ill., 1952, Table 19, p. 75.

[14] Holmes, R. H.: Wound ballistics and body armor. J.A.M.A. 150:73-78, 1952.

[15] Snyder, Howard E.: Management of chest wounds. Ann. Surg. 122:333-357, 1945.

[16] Valle, A. R.: Management of war wounds of the chest. J. Thorac. Surg. 24:457-474, 1952.

[17] Beecher, H. K.: Early care of the seriously wounded man. J.A.M.A. 145:193-200, 1951.

[18] Ziperman, H. H.: Cardiac arrest among casualties in a combat zone. Am. Pract. and Digest of Treatment, 5:69-73, 1954.

On the Management of Duodenal Ulcer in the Armed Forces*

By

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INTRODUCTION

MOTIVATION" is a magic word in judging the results of duodenal ulcer treatment and in planning rehabilitation of the ulcer patient. There is a truism, commonly heard among those who must decide whether a duodenal ulcer patient can be returned to active military duty, that the most realistic factor to be determined is whether the patient wants to return to duty. A particularly significant statistical commentary on the effect of motivation on loss of manpower to the Armed Forces is to be found in figures comparing separations from the Army for disability due to ulcer during the prewar period and during World War II. When the Army was composed entirely of volunteers, 1937-1940, the annual rates per 1,000 mean strength for peptic ulcer were 1.7 hospital admissions and 0.43 disability discharges. Corresponding rates for the draft Army of the war years, 1952-1944, were 3.07 admissions and 2.15 disability discharges.[1]

It is not the size or location of the ulcer, its rapidity of response to therapy, residual periodic pains, or length of ulcer history which determines whether the ulcer patient will be a good risk for further military service, nor is it his age, rank, military specialty, length of service, record of efficiency, or amount of military training. It is motivation for military service that makes the difference. This difference is evident not only at the time disposition is made, but throughout the course of the illness. Motivation has an important control over the day-to-day results of treatment, whatever form treatment may take. Motivation, in brief, is paramount in determining how much time the Service Man with ulcer will spend on Sick Call and in the hospital, and how much he will act as a drag on his unit by utilizing his ulcer to avoid certain duty, to fight new assignments and to insist on special favors as permitted by a lowered Physical Profile.

Classical ulcer treatment, with its emphasis on diet, acid neutralization and spasmolysis, is inadequate because it places the emphasis down among the patient's gastric juices, far away from his emotional problem. It misses the point of motivation. Unfortunate it is that the disease known as "duodenal ulcer" was named for the obvious organic lesion, rather than for the psychovisceral disease complex which is the real illness. It is not surprising that for so many years treatment has been directed solely at the ulcer crater itself, but now psychovisceral understanding has advanced far enough so that it is possible to do more for the patient who, as one secondary manifestation of his disease, has an ulcer. It is believed that the time has come in ulcer therapy for more philosophy and less technology.

The study to be reported here was based on premise that it is not the ulcer that is causing the patient's illness, but his illness that is causing his ulcer. It was believed that in the military setting the conditions are ideal for practicing more realistic treatment methods for duodenal ulcer, as dictated by this broader focus. The principles of comprehensive psycho-organic therapy, applied to the whole patient and to his whole illness, were carried out over a five-year period by a group of internists in a general hospital as the routine treatment for duodenal ulcer.

* The majority of the work entailed in this study was carried out by the Residents and Interns of the hospital's Medical Service, and to them grateful appreciation is expressed. Lt. Col. J. Richard Compton, M.C. and Doctor Maurice H. Greenhill trained the participants in the technics utilized.

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Experiences and evaluation are discussed here. The effectiveness of this philosophy of ulcer therapy cannot be specifically compared to results of other approaches to the disease —it cannot be proved better or worse—but it can be evaluated in terms of practicability and general effectiveness.

Material

During the past five years, 800 patients with radiologically-proven duodenal ulcer without prior gastric surgery have been treated by the comprehensive psychovisceral approach on the Medical Service of this General Hospital in the United States. Six hundred-fifteen of the patients were active-duty personnel, the others being retired or dependent personnel. All adult ages were represented, the number of patients per age-decade from the second through the seventh decades being 33, 374, 285, 72, 30 and 6. There were 42 women. Caucasians predominated (727 patients). There were 61 Negroes, 9 Puerto Ricans and 3 Orientals.

In all but 33 patients, the ulcer was in the duodenal bulb. There were 25 instances of postbulbar ulcer, and eight of combined bulbar and post-bulbar ulcer. Patients with gastric or esophageal ulcer in addition to duodenal ulcer were not included in this study because of uncertainty over the generic relationships between the various geographic varieties of ulcer. Similarly, it was necessary to exclude patients in whom duodenal ulcer was a relatively unimportant diagnosis as compared to another primary illness. Patients who at the time of their first examination already had some ulcer complication which necessitated surgery rather soon were also excluded. It goes without saying that only patients who could be treated over a period of at least a few weeks, either in the hospital or as outpatients or both, could be included. A total of 414 patients were hospitalized for a part of their therapy.

The 800 patients who were studied, therefore, were patients with duodenal ulcer, without more important disease, who gave the internists a fair opportunity for treatment. Although the great majority had had ulcer treatment previously—often for years and with the help of several doctors—none had had any surgical treatment.

Methods

Several doctors on the Medical Service took part in the treatment of this group of patients. Some functioned as ward officers and others were assigned to the care of outpatients. There was no active participation by psychiatrists. Coordination in treatment technic was the responsibility of the Chief of Section, who was in close day-to-day contact with the participating doctors and who followed the progress of each patient, in addition to treating a portion of the patients himself. During the first half of the period, training of the doctors in interviewing technic and psychovisceral thinking was carried out vigorously by an officer of the Medical Service who was particularly gifted in this field. During the second half, consultation-training was furnished at regular intervals by a prominent civilian psychiatrist.

The general plan of treatment was uniform for all patients, but there was, of course, no preconceived specific regimen to be followed in every case. The few variations which were made on the general theme were guided to some extent by the experiences and individualities of the doctors. More important were the variations suggested by an appraisal of the special problems and needs of individual patients. The plan involved three areas of treatment: diet, drugs, and direct communication or interview.

Diet. All patients were advised to take a normal or natural diet. No restrictions of any sort were suggested, nor were the patients told to "eat everything." If there were food items that they did not like or if there were food idiosyncrasies, such were to be honored. In a word, it was suggested that the patients eat anything they wanted, at intervals that suited their usual custom. Diet was presented as entirely unrelated to the ulcer problem. Similarly, there was no restriction on coffee, alcohol or tobacco.

Drugs. No medicines were prescribed. None was forbidden. Drugs were presented as unimportant in treatment. If a patient

requested something to take during periods of pain—and during the early part of their treatment many did—he was offered aluminum hydroxide tablets, to be taken *ad arbitrium*.

Interview. This was not psychiatric treatment. No psychiatrists took part in therapy. Rather, the mainstay of therapy took the form of encouraging the patient to communicate to the doctor what was making him sick, through goal-directed interview technic. It is not propitious to describe the intricasies of interviewing technic at this time; it is a very large subject by itself. A succinct explanation may be found in Greenhill's[2] paper. The patient's organic lesion, the ulcer itself, was used merely as the point of departure for the patient's discussion of whatever subjects he wished, under subtle guidance towards emotionally-charged areas by the doctor. In a sense, it was merely the technic of permitting the patient to show himself what his illness consisted of and what the underlying motivation was. It was an effort, not of refusing active responsibility on the doctor's part, but of permitting the patient to accept the responsibility for understanding his illness. The doctor offered only as much support as the patient appeared to require, acting merely as an unresponsive receptacle for the patient's conversation in certain cases or as an active source of medical information and guidance in others. Usually for the first time in his experience with doctors, the patient did not encounter an atmosphere of automatic grasp by the doctor of the full responsibility for the illness and its treatment. The patient found that he was not expected to surrender the individuality of his own special problems to the automatism of a standard hospital or clinic routine. He was treated as an individual. His doctor was anxious to listen to everything he had to say. The patient recognized in this the quality of genuine sincerity.

In the case of the hospitalized patients, the spirit of the interview technic was made part of the whole hospital stay. The first interview was carried out immediately upon admission, as part of the routine history and physical examination. It was continued daily in odd moments, whenever the patient was contacted, as during daily ward rounds, in the hospital corridors, or when some administrative matter had to be discussed. Such contacts might last only a few minutes, but the patient found the same attitude on the part of the doctor. Even a very brief contact frequently proved particularly productive for the doctor. The major part of the interview was carried out either at times specified by the doctor or at times the patient sought out his doctor with the inclination to talk. Interviews usually lasted about an hour and were carried out about three times a week. The average length of each hospitalization of the 414 patients who were treated in the hospital was 22 days. These 414 patients had a total of 464 hospitalizations under local observation during the study period. Most were not heard from again after discharge.

In the case of the clinic patients, appointments were formal and visits regular, except as the patients either declined to meet for scheduled interview or came to the doctor or consulted him by telephone apart from appointment hours. A few of the patients were hospitalized as part of their treatment and others were first treated as inpatients and then continued under treatment in the clinic. The clinic patients were stationed or lived within a reasonable distance of the hospital and clinic, so that they had easy access to their doctor whenever they felt the need of help.

There was, of course, great variability from patient to patient in the amount of time required to reach a point of maximum benefit from active therapy. This point was difficult to determine in many patients, and in reviewing the 800 records it was found that often the point was not clear to the doctor. Perhaps the best criterion of sufficient treatment for the moment could be defined as the point at which the hospital patient requested return to duty or the outpatient discontinued clinic visits. Frequently after a brief lapse of time outpatients returned for a few more visits.

All patients had regular routine and special medical study during their early medical contact, as their individual clinical situations

dictated. In addition to the history, physical examination, routine laboratory study, and upper gastrointestinal roentgenologic examination, many patients were examined gastroscopically, by gastric mucosal biopsy and serially for occult blood in the stool. Gastric analysis was infrequently made. Many patients had minor unrelated medical problems which were studied and treated. Prominent among these were minor hearing deficiency, hemorrhoids, and orthopedic defects.

In the discussion to follow, references are made to the classical therapeutic approach to the patient with duodenal ulcer. By "classical approach" is meant the familiar approach, with emphasis on the ulcer lesion itself. The mainstays are dietary restrictions, antacid medication, and antispasmodic medication, often supported by sedation, restriction of tobacco and alcohol, and suggestion regarding change of situation in order to avoid stress, worry and overwork. Although situational stress may be recognized in the classical approach as important to ulcer genesis, it is handled only by efforts to escape it. Almost all diagnostic and therapeutic effort is directed at the duodenal bulb. The effectiveness of treatment is judged largely on the basis of roentgenologic evidence of ulcer healing.

Observations and Results

When the ulcer crater itself is considered to be rather incidental to the patient's whole problem, evaluation of the effectiveness of treatment must depend on the patients' and the doctors' general impressions, based on their previous experiences with the classical means of treatment. In the present instance, all of the doctors and the great majority of the patients had had such previous experience. The effectiveness of the present plan of therapy was, therefore, judged on these impressions, plus, to a lesser degree, experiences with complications, necessity for falling back on surgical treatment, and ability of the service patients following therapy to return to military duty.

The reaction of the doctors was most interesting. Everyone began his participation with a mixture of doubt and bewilderment. Then he found that the philosophy of the regimen was something with which he was really quite familiar. It was stimulating to him to find that he was much more important to the patient and his problem than he had been previously, as little more than a drug-prescriber. The dividends in terms of increased interest in the disease, interest in the patient, appreciation of the basic realism and honesty of the approach, and genuine gratitude on the part of the patient turned the skeptic into an enthusiast. It was confidently concluded that the participating doctors were sufficiently gratified by their personal experiences so that they would no longer believe the classical approach to be adequate.

It was, of course, rather easy to evaluate the patient's reaction to his treatment, because the purpose of the interview technic is to promote communication of the patient's reactions to all of his surroundings. The initial uncertainty in the patient's mind over just what was constituting his treatment will be discussed elsewhere. Perhaps the most striking of patient reactions—an almost universal one—was his tendency to forget about his ulcer, once interviewing had gotten under way. His attention turned away from his stomach complaints. These no longer seemed important after the patient had commenced his discussions with his doctor. It is considered particularly bad technic to question the patient directly about the presence or absence of ulcer pain, especially while on ward rounds, because spontaneous mention of such symptoms is always of special significance. It was striking to note, therefore, the infrequency with which the patient mentioned his stomach, as treatment continued. In the case of the hospitalized military patient, it was almost always the patient who first suggested that it was time for his return to duty. In the case of the outpatient, it was the patient himself who decided when clinic visits should be terminated.

The effect of interview therapy on the patient's motivation was most significant. Benefit to the patient took the form of an understanding of the plainer forces which made up his motivation and effect which these were having on the course of his illness. If the

patient hated military service, he continued to hate service but the interviewing was directed so that he could make a start at appreciating the association between this and his symptoms. The importance of the patient's verbalization of such an association was, of course, considerable. For one thing, rarely had the patient ever consciously recognized and admitted the simple facts revolving about the secondary gain supplied by his illness in his desire to avoid some aspect of service. For another thing, there was a certain gain in maturity of attitude and, with it, a degree of shame over the part that the illness had been permitted to play in forcing disability. The result was a tendency on the patient's part to separate his illness from purposeful gestures at proving his disability to others. He no longer found it necessary to remind people of his illness. Motivation naturally became healthier as his attitude became more mature, and with it there was a decrease in the need for medical support.

It was the conclusion of both patients and doctors that the present regimen proved more effective than the classical regimen. Every hospitalized military patient was returned to full military duty. This included those operated upon. The "P" category of the Physical Profile was entered as either "2" or "3", depending largely on prediction of the permanency of treatment benefits. Patients were, of course, returned to duty without dietary restriction, without provision for special messing arrangements, and without medication. They were, however, encouraged to return for further interviews whenever they wanted, should their geographic situation permit, or to seek another medical officer who, after obtaining a copy of the current Final Summary, could continue treatment.

Complications and surgical treatment. Not much of prophetic importance can be made of the incidence of complications among this group of 800, because of the brevity of association with many of the patients and because patients who already had an ulcer complication requiring surgical treatment when first examined were excluded from the study. On the other hand, many of the patients included in the group had been considered in the past to have ulcers which were intractable to medical treatment and several had been transferred to this hospital specifically for an operation.

No important degree of bleeding and no perforation occurred during treatment.

Intractability, most significantly, did not become a problem. Unfortunately, it is not possible to be precise about the number of patients who could be considered truly intractable, because the point at which it no longer is profitable to treat an ulcer patient medically is impossible to define. It may be mentioned, however, that in the transfer charts of 84 referred patients intractability had been discussed. Patients referred with the diagnosis of intractability were treated along with the others. None was operated upon because of intractability. Progress was satisfactory enough to permit return to duty in all cases.

In 27 instances, treatment was interrupted and surgery substituted. Again, the actual figure is not particularly useful for comparison with other series, because opinions regarding the benefits of surgery for the ulcer patient differ so greatly. In six patients operation was done because of the clinical impression of posterior penetration of the ulcer. In 21 instances obstruction at the ulcer site remained static enough and of sufficient degree to demand surgical relief. Twenty of the patients were treated by subtotal gastrectomy and seven by vagotomy and gastroenterostomy.

Failures and difficulties. There were many failures. Although difficult to define "failure" as opposed to "limited success" in this situation, it was believed that 55 patients could be considered failures. Twenty-seven of these were treated successfully surgically, as just mentioned. In the surgical cases, failure became manifest largely through a change of symptoms, suggesting posterior penetration of the ulcer, or development of obstructive symptoms. In other cases, a satisfactory state of communication could not be established with the patient, and efforts were discontinued short of even limited progress. This, surprisingly enough, did not tend to cause the patient to complain of intensification of

symptoms, but, rather, he demonstrated a state of hostile impatience which rather regularly led him to request discharge from medical care. No doubt, more experienced interviewers could have salvaged some of these. Two features stood out in the reactions of these patients: First, when initially examined most had indicated to the doctor that medical efforts had never done any good in the past and probably would not help now, and, second, at the time of discharge they did not threaten to seek medical help elsewhere. All military treatment failures were returned to duty, usually, as stated, at the patient's request.

The initial difficulty in helping certain patients adopt the present treatment regimen was considerable. As perhaps a serendipitous argument for the present thesis, it is interesting to note that a large proportion of the patients already had a long history of prescribed ulcer treatment at the time they were first examined here. Other doctors had prescribed diet and regular medication, and everything they had read on the subject in the lay press had placed the emphasis on these features of treatment. From the outset they saw that they were being handled differently from the way doctors in the past had met their problems. The dietary cripple was not easily weaned to a full diet. Most patients missed the accustomed comfort of a bottle of medicine.

It required many days for most patients to begin to grasp the nature and purpose of their treatment. Some, of course, never did. In the beginning most evidenced insecurity and confusion because no concrete course of treatment was outlined. The doctor was not accepting the burden of the patient's problem for him. It was clear that the doctor was tossing the responsibility of the illness right back to him from the start. It was believed best not to meet these uncertainties too actively because more effective end results would accrue from hearing the patient out on this as well as on his other problems.

Perhaps the main problem encountered in the present experience was insecurity on the part of the participating doctors over whether they were handling their patients correctly. Their initial observations suggested to them that this comprehensive approach was forcing them to neglect their patients' organic disease. They were uncertain over the effectiveness of the treatment, and their patients felt this. For instance, it was rather traumatic to hear surgical colleagues say that patients referred for consideration of operation were reporting that they were receiving no treatment at all on the Medical Service. Most of the doubt arose because everything in each doctor's medical schooling and in his reading had indicated that he must do something concrete to neutralize the patient's gastric acid and otherwise help the craterous lesion to heal. The new concept was difficult to grasp. The amount of support the doctor was furnishing his patient was not easily measured. He had been taught to give the patient something and under the present plan he could not recognize what this something was. These feelings were intensified early in the treatment of each new patient because the patient so often demanded a diet or medicine before his interviews had gotten under way.

Other problems encountered by the doctors were minor. It was quite clear that, for maximum mutual satisfaction, one doctor had to follow the course of treatment of each patient from beginning to end of active treatment. This, of course, is a relative necessity in any form of treatment but becomes close to absolute in this approach. The doctor, in his role as the total therapeutic factor in his patient's mind, had to make himself available at all times. He had to be prepared to receive unexpected calls and visits from his patient at inconvenient moments during and long after the initial course of interviews. In some instances this grew into a problem amounting to outright nuisance, but it was important that it be handled with exactly the same spirit on the doctor's part as was the formal treatment itself.

Discussion

In the military setting, it is not so much ulcer-illness as it is classical ulcer-treatment which interferes with the individual's effec-

tiveness. There is the problem of regular use of medications, and, more limiting, there is the impossibility of obtaining a prescribed ulcer diet. If the usual type of ulcer diet is prescribed for indefinite maintenance, in fact, it is not possible for an ulcer patient to return to duty. Almost as limiting as a formally prescribed diet is any belief on the patient's part, whether it is of his own creation or whether it has been instilled gradually during long hospital contact, that he must be careful in selection of dietary items. He often believes garrison mess to be too greasy and field mess to be wholly unbearable. The magic of milk, as a sort of creed, preoccupies the dietary thinking of many ulcer patients, but, except perhaps for mess personnel, the supposed milk needs of the ulcer patient cannot be met in the military setting.

Dietary invalidism is a disease which may be worse than duodenal ulcer. Nevertheless, many a zealous doctor bends every effort to impress his patient with the necessity of following a diet. Realizing that symptomatic periods are sufficient of themselves to encourage the patient to follow any prescribed regimen, he may concentrate on impressing upon his patient the importance of following a strict diet during symptomatic remissions, so that relapse can be avoided. As proof of his success, the doctor can point to his mimeographed diet sheet which the patient carries in his wallet or has tacked up over the kitchen sink at home, to be consulted before anything is eaten. The more faithfully the diet sheet is followed, it seems, the more successful the doctor has been. Ulcer morbidity becomes less disabling than the restrictions of a rigid diet. The patient has been trapped into invalidism by forced therapeusis, and retreat, if directed by his doctor, would be too traumatic to the patient to be permissible. There is no easy cure for dietary invalidism.

In spite of this monster which dietary treatment may create, one cannot honestly look his ulcer patient in the eye and tell him that there is any evidence to suggest that any article of diet has helped produce his ulcers, will hurt his ulcer, or will interfere with its healing. Diets have been devised for ulcer patients because in the face of active ulcer, irritability of the gastric musculatus produces relative intolerance to certain types of food. The stomach becomes selective and fitfully so. Diets grew out of subjective experience. The most that diets can do is help the patient who has an active ulcer feel better for a short while after every meal. Diets cannot produce any but a most momentary physiologic change in the upper gastrointestinal tract. Even this very temporary measure encounters a great deal of individual variation. A large portion of ulcer patients find no relief in a diet, but, as the doctor teaches them the necessity of avoiding certain foods, are led to believe they would be worse off if they ate normally. It has been easy to misdirect the rationale from symptomatic expediency to therapeutic necessity.

Approximately the same comments may be made about the pharmacotherapeutics of duodenal ulcer. It is gradually becoming clear that the gastric acid-pepsin factor does not have very much to do with the production of duodenal ulcer. More than a hundred years ago, two of the best thinkers that medicine has produced, Virchow and Rokitansky, pointed out that local ischemia must necessarily be the defect responsible for duodenal ulcer. Evidence has accumulated during the past few years to suggest that this is true. Nevertheless, for a century an unbelievable amount of time, energy and money has been expended in the study of gastric secretion and means of combatting it in the ulcer patient. Not much has come of this effort. ". . . the devotion of the acid advocates to their cause must be admired when one contemplates the heartbreaking futility that has been so consistently encountered through the years in an attempt to eradicate ulcer by eradicating acid."[3] The best that this 100 years of effort is now able to offer the ulcer patient is the advice to follow a special diet and to take certain medicines the rest of his life, so that the clinical effects of the little lesion itself may be kept in abeyance. It seems particularly important that efforts

have been directed almost exclusively towards temporizing measures. The medicines have to be taken indefinitely, with no hope at all of decreasing the efficiency of gastric secretion. It can hardly be said that pharmaceutic science has progressed very far with the ulcer problem. Thinking regarding definitive cure has produced only the admittedly make-shift surgical procedures. Because the stomach and duodenum are so far away from the patient's real problem, surgical procedures have in a sense merely substituted one local problem for another. They have proved useful in most cases because they permit the patient to carry on, in spite of his illness.

When the ulcer patient reports to his doctor that he has been taking his medicine faithfully for 10 years and has been able to maintain a fair symptomatic state thereby, it should probably be admitted that he has not been given a very good solution for his problem. It seems that the doctor ought to be able to offer him more. Boles[4] expressed the answer this way, "When we begin to look on the ulcer as the complication of a systemic disorder, we shall have made our first step toward a solution of this problem." In the present experiment, it seemed particularly significant that few patients requested diet or drugs after their first few contacts with his doctor. It appeared that not many patients had real faith in their medicines, but previously they had known of no satisfactory substitute. It had been stop-gap treatment.

Duodenal ulcer has always been considered a very chronic disease. Under commonly employed treatment measures, its most characteristic feature is recurrence.[5-8] Classical treatment lacks foresight in that it furnishes only symptomatic help and makes no pretense at eliminating the disease. Even the strictest of classical treatment schedules offers no promise of "cure." The aim is to keep symptoms under control in an effort to assure continued effectiveness of the patient. No definitive effort is made in any etiologic direction. There is no individualization—all patients receive the same regimen, often as a sort of Standard Operating Procedure, without thought as to variations from ulcer to ulcer and from personality to personality. Emotional problems and physical situations become sublimated to routine. Classical ulcer regimens have been standardized in inflexibility.

A warning has been voiced by Ryle[9] in his evaluation of current trends: "Investigation to the limit, mainly by objective methods and often with too little said to or done for the patient during or after the tedious process, has been the prevailing trend, especially in the case of the more chronic or seemingly more obscure varieties of disorder and disease. More and more accurate assessments of local pathology, with the help of more and more colleagues and instruments, and less and less intimate understanding of the patient as a whole man or woman with a home and anxieties and economic problems and a past and a future and a job to be held or lost, have become the order of the day."

It is unfortunate that it is almost impossible to make a specific evaluation of the effectiveness of any regimen designed for the treatment of duodenal ulcer. It is probably fair to state that at the completion of their lives most ulcer patients have from time to time followed with a varying degree of zeal many types of prescribed and self-devised regimens. For this reason survey of any five or ten year period out of an ulcer patient's course would not permit one to come to any valid conclusion as to the effectiveness of any specific treatment schedule. It is questionable, even, what might be the best criterion of effectiveness of treatment if the problem is limited to only the military patient—accumulated period of unavailability for duty because of illness, duty effectiveness, ulcer complication rate, ulcer mortality rate, or perhaps a combined evaluation of all. There is no reasonable technic whereby one might collect accurate data on these matters, because, to reiterate, rare is the patient who has faithfully followed a "pure" treatment regimen, of whatever type, over a period of years. As so often is the case in clinical investigation, precise statistical evaluation may lead to conclusions which are not nearly

as valid as non-mechanical clinical impressions, gained from talking to hundreds of patients. This non-mechanical technic was used for the present investigation, partly by necessity and partly by choice, born of faith in the validity of the clinical impression.

The comprehensive approach appeared to give good immediate results in the present study, as judged by impressions gained after relatively brief contact with the patients. The patients sought medical help focussing entirely on the duodenal bulb. They returned to duty or to their own care with the feeling that the ulcer crater had been rather unimportant to their problem except as it had in the past been instrumental in drawing attention away from their real illness. They understood their whole illness better. They had lost at least some of the frustration which had been created by the veil of mystery surrounding the etiology of their sickness.

An important benefit was the promise for the future of increased effectiveness on the part of the military patients, with decreased probability of prolonged loss of duty time because of ulcer troubles. The time required of the doctor in this, the initial phase of treatment, was considerable. It is believed that the time which would be saved by professional personnel in supervision of the whole medical course of each patient would be very much greater. Extra professional effort at the outset promised to pay dividends in terms of decreased necessity for sick-call and hospital care for the future. Treatment clearly was most effective when the patient's initial indoctrination was most thorough. Although many patients sought out their doctor after having been discharged from active treatment, this was believed to be only an indication of incomplete initial treatment, rather than a portend of need for continuous support. A portion of the patients seemed to require one or two extra interviews to confirm their own evaluation of their status, which often rather slowly evolved during the first few post-treatment weeks.

It is believed that the experiences recounted here may have significant economic implications for the military services because it was demonstrated that, when the ulcer patient's attention is turned from his crater to his whole illness, he is better able to support his illness by himself. As a consequence, he can be expected to lose less time from duty because of sick-call visits and hospitalizations.

Summary and Conclusions

1. Experiences in the treatment of 800 patients with proven duodenal ulcer in a military general hospital have been described. Efforts were directed at treatment of the patient and his illness as a whole, with de-emphasis of the lesion in the duodenum. The regimen was geared to provide an individual approach to each patient's problem. The features which were common for all patients were normal diet, absence of prescribed medications, and interview technic.

2. It was concluded that this approach meets the military problem of duodenal ulcer more realistically and more effectively than does the classical approach, which is directed at the ulcer crater, with emphasis on diet, acid neutralization and spasmolysis.

3. Again it was concluded that what is best for the military patient is best for the military service. The important benefit was the acquisition by the patient of the ability to support his illness by himself, once his attention had been turned from his ulcer crater to his whole illness. As the patient accepted the responsibility of his illness, his motivation for duty assumed more mature proportions.

References

[1] Hamilton, E. L., Sullivan, B. H., Jr., and Palmer, E. D.: Duodenal ulcer in military personnel: studies on military effectiveness of the ulcer patient. II. Magnitude of the problem. U. S. Armed Forces M. J., 3:831, 1952.

[2] Greenhill, M. H.: Interviewing techniques. Transactions, Fourth Annual Venereal Disease Work Conference. Philadelphia, National League for Nursing, 1955. p. 50.

[3] Boles, R. S., and Westerman, M. P.: Seasonal incidence and precipitating causes of hemorrhage from peptic ulcer. J.A.M.A., 156:1379, 1954.

[4] Boles, R. S.: Modern medical and surgical treatment of peptic ulcer; an appraisal. J.A.M.A., 136: 528, 1948.

[5] Althausen, T. L.: Prevention of recurrences in peptic ulcer. Ann. Int. Med., 30:544, 1949.

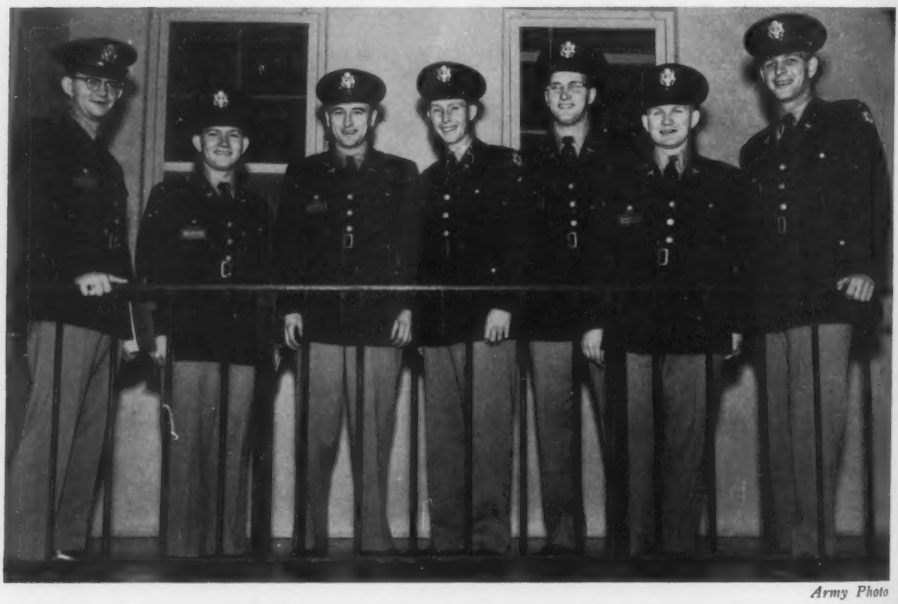
[6] Einhorn, M.: Seasonal incidence and study of factors influencing the production of one thousand recurrences of gastroduodenal ulcer in eight hundred patients. Am. J. M. Sc., 179:259, 1930.

[7] Emery, E. S., Jr., and Monroe, R. T.: Peptic ulcer: nature and treatment based on a study of one thousand four hundred and thirty-five cases. Arch. Int. Med. 55:271, 1935.

[8] Flood, C. H.: Recurrence in duodenal ulcer under medical management. Gastroenterology, 30: 184, 1948.

[9] Ryle, J. A.: The Natural History of Disease. London, Oxford University Press, 1936. p. 97.

RECENT ADDITIONS TO THE ARMY NURSE CORPS



Army Photo

This group of nurses swelled the ranks of male nurses in the Army Nurse Corps to nine members. They are now at the Army Medical Service School, Brooke Army Medical Center, Fort Sam Houston, Texas. (L to R) Lieutenants Robert Mitchell, Allie C. Blount, Charles E. Christ, Thomas J. Dougherty, Robert J. Jaeger, Jr., James C. Walther, Bernard E. Wildoner.

Treatment of Migraine*

By

COLONEL RYLE A. RADKE, U. S. Army, Retired†

(With one illustration)

THERAPEUTICALLY it is helpful to regard the migraine seizure as a rebellion of the vascular tree against overloading. Figure 1 portrays some of the contributing factors. Successful therapy of migraine demands that these various stresses be reduced as much as possible. Obviouly one cannot create an emotional void for the patient but if one can teach him to live within his resources emotionally much benefit will accrue. In a similar manner reduction of sources of mental overloading is to be sought. Common errors are for an executive mentally busy all day long to spend his recreation hours at serious bridge or to lunch at his desk. Similarly on the physical exertion front many migrainous patients feel impelled to do the weekly washing and heavy housecleaning all on the same day. Advice to spread the load over several days is therapeutically useful. In the field of physical sources of strain belong allergic factors and if the patient has a history suggestive of allergic disorder, useful therapeutic information may be secured from a food diary kept for 21 days, with the headaches recorded. Analysis of the foods including medication consumed during the 24 hours preceding a headache may reveal a significant relationship of some materials to the headaches. These should be eliminated when found. If the history suggests a relationship of the seizures to sexual incompatability this may often be made clear to the patient by having sexual contact recorded in code on the food diary. Benefit for the migrainous patient results from elimination of focal infection. Commonly missed in this regard are amebiasis, prostatitis, cholecystitis. Another physical factor productive of seizure which may be overlooked is exposure to cold wind striking the side of the face. Patients with convergence weakness are prone to develop migraine and orthoptic exercises are helpful in reducing the incidence of seizure when this difficulty is present. Migrainous patients with oliguria and increased thirst should be advised to limit water intake during such periods.

Clearly established is the beneficial therapeutic effect upon the individual seizure of vasoconstrictor drugs. Most commonly employed is ergotamine tartate. Since 1946 I have studied other vasoconstrictor agents to find a less toxic vasoconstrictor with which to treat migraine since potentially lethal effects have been described due to ergotamine tartrate.[1, 2, 3] When dextro-amphetamine was employed as the vasoconstrictor it was apparent that the mood elevation effect of this drug plus its vasoconstrictor effect made it useful in treatment of migraine. Further investigation revealed that when the migraine attack had proceeded to the point where edema of the involved vessel wall was present that an analgesic drug was necessary to be added. Clearly the most efficient of the analgesic agents in relieving vascular pain is aminopyrine, consequently it was employed for this purpose. Since 1948, more than 350 patients with migraine have been treated with this combination of drugs. In 150 patients follow-up observation has been adequate to permit therapeutic evaluation. Observation has ranged from 7 years to 3 months (400 to 5 headaches) and has been by personal interview. Results of therapy are shown in Table 1. Many patients who receive relief from the medication continue to have a slight residual discomfort which I have termed "shadow pain." This may last for an hour or more and is not incapacitating. Headaches followed by "shadow pain"

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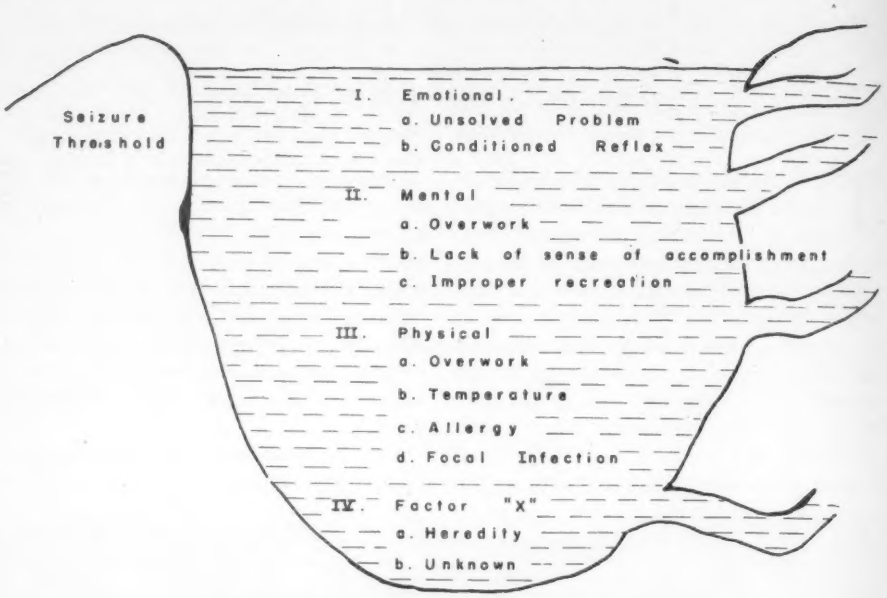

FACTORS PRODUCTIVE OF MIGRAINE SEIZURE
(Adapted from Lennox)

FIGURE 1

have been considered as having been relieved successfully by medication.

Analysis of the failures reveals that most often they are due to failure to take the drug promptly upon onset of the aura, particularly when the attack starts during sleep. About 17% of migrainous individuals do not recognize an aura. Careful questioning may permit the physician to elucidate the aura. Table 2 illustrates the types of aura in 35 cases of migraine.[4]

TABLE 1
RESULTS OF THERAPY OF MIGRAINE WITH DEXEDRINE-AMINOPYRENE

	No. Patients	Per Cent
Excellent Complete control	30	20
Good Control of > 80%	98	65
Poor Control of < 80%	15	10
Absolute Failure	6	5

Another cause of failure is the presence of migraine seizures in a patient who is psychiatrically sick. Recognition of this and referral to the psychiatrist where indicated is necessary. The small number of absolute failures resulted when the attacks were so frequent that I hesitated to employ aminopyrine in such large doses even though control of the seizure was adequate.

The data with respect to treatment success in this study may be materially altered by loss from view of significantly more treatment failures than success. Most were un-

TABLE 2
DISTRIBUTION OF AURA IN 35 PATIENTS WITH MIGRAINE

Visual	40 %
Pain about the head	20 %
Mood changes	11 %
Nasal	5 %
Heat on face, unilaterally	2 %
Gastrointestinal upset	2 %
None	17 %

avoidably lost because of the nature of my military practice and the fact that the investigation has been conducted through four changes of station.

An interesting by-product of this investigation has been the observation that frequently dysmenorrhea is relieved by this combination of drugs, suggesting that this pain may on occasion be a vascular phenomenon similar to that which produces hemicrania. Similarly, on occasion the combination of drugs has been employed in the post-alcoholic state with signal relief of the headache and gastro-intestinal upset.

Toxic reactions have not occurred during this investigation; however, it must be emphasized that aminopyrine has a bone marrow depressant effect. Madison and Squier[5] demonstrated the relationship of aminopyrine to agranulocytosis. All six of their patients who continued to take the drug died, while only 2 of 8 who stopped the drug died. Dameshek and Colmes[6] conclusively demonstrated hypersensitivity to aminopyrine in 4 of their agranulocytosis cases by means of skin tests with a mixture of aminopyrine and serum. They also estimated that the untoward reaction occurred once in 10,000 prescriptions. Almost without exception in the cases reported in the literature the agranulocytosis followed daily use of the drug in large doses and in many the drug was stopped and restarted. Strauss[7] reported a case of "amophylactic-like" shock following ingestion of aminopyrine. His case had no leukopenia. Treatment of patients with granulopenia with antibiotics has resulted in reduction of morbidity and mortality. Sepulveda[8] described improvement in granulocyte maturation in aminopyrine toxicity 60 hours after the first dose of 150 mgm of cortisone. Hart, et al[8] described the successful treatment of a similar case with ACTH. With therapy available idiosyncrasy to aminopyrine is less to be feared if the complication is recognized and the drug discontinued.

The reported therapeutic accidents with dextro-amphetamine and its related compounds are mostly associated with gross overdosage; however, Kauvar, et al.[9] and Goldsmith[10] reported a case of atopic dermatitis apparently due to amphetamine and dextro-amphetamine. No evidence of habit formation has been observed.

I have not employed this combination of drugs in those patients requiring the drugs oftener than 3 times weekly. No observable ill effects have been noted from the vasoconstrictor other than the production of sleeplessness. The combination has been employed without demonstrable ill effect in patients with the anginal syndrome and hypertension. Noteworthy when dexedrine-aminopyrine are used is the absence of increase in pain and nausea so troublesome a feature of ergotamine tartrate action on migraine.

Method of employment has been to dispense the drug in capsules of 5 mgm of dexedrine and 0.32 gm of aminopyrine. The prescription is for 10 capsules with a *do not refill* request. Prior to dispensing the drugs a blood count is obtained and on each occasion before refilling the prescription the blood count is again examined. Given at the same time is a prescription for 0.032 gm phenobarbital tablets with instructions to take at bedtime if the dexedrine and aminopyrine drugs have been taken within the preceding 5 hours and to take at once if an attack occurs during the night. The patient is instructed to drink a real hot beverage if nausea is present. When this has been retained for sufficient time to cause gastric vasodilatation the nausea will usually disappear.

The drugs must be taken as soon as the aura is recognized. Patients should have the headache capsules on their person at all times. The dose should be repeated once if the headache recurs or is unaffected after 45 minutes.

Summary

General treatment of the migraine syndrome is described. In therapy of the individual migraine seizure dexedrine 5 mgm and aminopyrine 0.32 gm. have been successfully employed. In 150 migrainous patients observed in from 5 to 400 attacks over a period ranging from 3 months to 7 years, the

response to therapy was graded as follows: Excellent 20%, Good 65%, Poor 10%, Failure 5%.

To be most effective the capsule must be taken as early in the attack as possible and repeated once if necessary. No recognized toxic effect has been observed. The potential toxicity of aminopyrine for the bone marrow is recognized. Employment of the drugs should be preceded by a blood count, no more than 10 capsules should be given with *do not refill* and blood counts made before each refill. If the drugs are necessary oftener than 3 times a week another vasoconstrictor and analgesic combination should be employed.

References

[1] Scherf, D., and Schlachman, M., Electrocardiographic and Clinical Study on the Action of Ergotamine Tartrate and Dihydroergotamine 45, Amer. J. Med. Sci 216:673-679, 1948.

[2] Von Storch, T. J. C., Complications Following the Use of Ergotamine Tartrate, Their Relation to the Treatment of Migraine Headaches, J.A.M.A. 111:293, 1938.

[3] Zimmerman, O., Klin. Wchnschr., 14:500, 1935.

[4] Radke, R. A., Migraine, The Surgeon's Cir. Ltr. A.F.F.E. 7:74, 1952.

[5] Madison, F. W., and Squier, T. L., The Etiology of Primary Granulocytopenia, J.A.M.A. 102:755-765, 1934.

[6] Dameshek, W., and Colmes, A., The Effect of Drugs in the Production of Agranulocytosis, J. of Clin. Investigation. 15:85-97, 1936.

[7] Strauss, M. B., Allergy to Amidopyrine: Blood Studies Following Anaphylactic-like Shock in a Patient, New Eng. J. Med. 215:177-179, 1936.

[8] Cited by Alexander, H. L., Reactions with Drug Therapy, Philadelphia, Saunders, 1955.

[9] Kauver, S. S., Toxic Eruption Due to Amphetamine Sulfate and its Analogue D-amphetamine Sulfate, J.A.M.A. 122:1073-1074, 1943.

[10] Goldsmith, W. N., Benzedrine Eruption, Proc. Roy. Soc. Med. 32: 269-270, 1939.

Army Photo

Maj. Gen. James O. Gillespie, Chief of the Professional Services Division, Office of the Surgeon General of the Army, talks over the affairs of the Ft. McPherson (Georgia) Army Hospital with its Commanding Officer, Col. Louis Jobe, Jr.

Three Year Photofluorographic Survey at the Philadelphia Naval Base*

By

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AND

LIEUTENANT MICHAEL B. DOOLEY, MC, *U. S. Naval Reserve*‡

INTRODUCTION

THE main purpose of any photofluorographic survey is the discovery and elimination of tuberculosis from the community. There is an equally important function which is the detection of cardiac abnormalities, pulmonary and mediastinal neoplasms, bronchiectasis, and similar pathologic conditions.

This survey covers 143,717 films taken from January 1952 through December 1954 inclusive at the Medical Dispensary, Philadelphia Naval Shipyard. This report is the net result of 141,843 routine annual 70 mm. films plus 1,874 recalls (14 × 17 plates) on 61,164 civilians and 80,288 servicemen, including 329 dependents.

PROCEDURE

Initial readings are made at the Naval shipyard with a subsequent review in the Bureau of Medicine and Surgery at Washington, D.C. Suspicious 70 mm. films are recalled for a 14 × 17 check plate. If the findings are considered insignificant the suspicion is dismissed. However, clinical evaluation by a qualified medical officer, local physician, clinic or hospital is requested when indicated. Often the 14 × 17 plates will not warrant either course, in which case a physical examination is performed by our Industrial Medical Department with serial x-rays at frequent intervals.

Table I illustrates the percentage of films taken in any one of the four categories (Civilian, Military, Dependents, Others). Of the total x-rays reported in this survey, less than ¼ of 1% were taken on dependents of military personnel. As one can see, the service personnel exceed the civilians by approximately 13% in this survey. This is due in part to the presence of visiting ships the personnel of which have their films taken while in port. Many such cases are not available for follow-up at the Philadelphia Naval

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* The opinions or assertions contained herein are the private one's of the authors and are not to be construed as reflecting the views of the Navy Department or the naval service at large.

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TABLE I

THREE YEAR PHOTOFLUOROGRAM CENSUS 1952-1954 INCLUSIVE. MEDICAL DISPENSARY, PHILADELPHIA NAVAL SHIPYARD

	1952	*1953*	*1954*	*Total*	*% of Total*
Military	31,221	24,581	24,486	80,288	56.63
Civilian	24,162	20,295	16,707	61,164	43.10
Dependents	144	101	84	329	0.23
*Others	32	25	5	62	0.04
Total	55,559	45,002	41,282	141,843	100.00

* Includes foreign military and humanitarian patients.

TABLE II

PHOTOFLUOROGRAPHIC AND 14 × 17 RECALL DATA

Total photofluorograms		141,843
Total 14 × 17 recalled on suspicious photofluorograms	2,268	
14 × 17 recalls which did not return	172	
14 × 17 missing (signed out or misfiled)	222	
Total 14 × 17 used in the diagnostic survey		1,874
		143,717

Base because of transfer or discharge of military men, refusal to enter the Civil Service or failure to report for work in the case of civilian employees. Interpretation of the civilian 70 mm. films requires more time and study than those of the younger servicemen because of the age differential.

Table II reveals the ratio of recalls to 70 mm. films and the total yield, which is adequate for statistical purposes. The total number of patients recalled for 14 × 17's because of suspicious findings on the 70 mm. films was 2,268 or 1.6% of 141,843 exposures. However, 172 failed to return because of transfer, shipping out, or, in the case of civilians, declination of employment. Two hundred and twenty-two 14 × 17 films could not be located, presumably because they accompanied service personnel at time of transfer to duty elsewhere. However, 1,874 films (83%) were available for evaluation.

Table III represents the major roentgenologic findings from this mass-survey. Of the 1,874 plates (14 × 17 films), 718 were considered within normal limits. Pulmonary infiltrations are the most frequent lesion noted in the remaining 1,156 films. This includes 176 lesions which qualify radiologically as "probable active tuberculosis." However, the infiltrate may represent carcinoma, hamartoma, adenoma, or even an unidentifiable lesion which can only be followed serially. We have attempted to include a definitive diagnosis when possible. Old healed pulmonary tuberculosis was proven in 76 cases, which are followed by annual 14 × 17 films. Cardiac enlargement was demonstrated in 84 cases (0.06% of total photofluorograms). The 264 healed primary complexes enumerated in Table III are only those seen on a 14 × 17 plate, as their presence on 70 mm. films is considered of little significance. Thus, the actual incidence of the Gohn complex must be much higher than appears in this report. Pulmonary neoplasms were found in 16 cases (.012% but not itemized as to location or pathologic diagnosis. Mediastinal tumors were reported in seven cases: six in the middle, one in the anterior mediastinum. There were seven lymphomas of which four

TABLE III

TABULATION OF MAIN FINDINGS IN 1874 FILMS (14 × 17)

Total number of 14 × 17 films		1874
Normal plates		718
Main Pathologic Findings:		
Healed Primary Complex		264
Pulmonary Infiltration		176
Cardiac Enlargement		84
Tuberculosis		
Active	4	
Chronic	76	
Bronchitis		
Chronic	80	
Pleural Fibrosis	79	
Rib Abnormalities	69	
Calcified Lymph Nodes	57	
Pulmonary Fibrosis	33	
Histoplasmosis	30	
Pneumoconiosis	28	
Diaphragmatic Abnormalities	22	
Dilated Aorta	17	
Neoplasm (Pulmonary)	16	
Bronchiectasis	12	
Pneumonia	11	
Mediastinal Tumors	7	
Emphysema	7	
Lymphomas	7	
Pneumothorax	5	
Unclassified (Minor)	72	
Grand Total		1874

were Boeck's sarcoid. There were also several disease entities not listed in Table III such as coarctation of the aorta (1), aortic aneurysm (2), pulmonary aneurysm (1), atelectasis (2), calcified pericarditis (1).

Discussion

The current survey revealed 93 cases of pulmonary infiltration in 1952, but only 44 in 1953 and 47 in 1954. This illustrates by indirection the value of such mass-surveys, even though they may cause a progressive decrease in the number of cases brought to light. At the present writing there is no substitute for the chest survey as a practical method for detection of tuberculosis throughout the community. According to Birkelo et al,[1] open pulmonary tuberculosis is found in 1 out of 500 in the general population. Our incidence is one case of pulmonary infiltration to approximately 800 people. Recently, it has been estimated by the Medical Statistics Division of the Bureau of Medicine and Surgery, as quoted by Bircher and Castle,[2] that 5,538 photofluorographic examinations will reveal one case of active pulmonary tuberculosis. The difference may be attributed to the good health of our servicemen and to the rejection of physically unfit applicants by pre-enlistment or by pre-employment 70 mm. films.

Yerushalmy[3] maintains that one way to diminish errors in the interpretation of films is to insist on dual reading by different radiologists. He found that a single reader missed on the average of 32.3% of the films with evidence of inflammatory disease and gave a false positive diagnosis in 1.7%. Also, Groth-Petersen[4] and his co-workers found that a single reader detected only 68% of the "truly positive" cases and diagnosed 2.5 "false positives" for each true one. In independent dual reading each pair of viewers found 84% of the "truly positives," so that the second reading resulted in the detection of half of the cases missed by a single observer. In order to increase the accuracy of mass-reading, 141,843 minifilms were referred for review to the Preventive Medicine Section of the Bureau of Medicine and Surgery of the Navy Department in Washington, D.C. As a result of this double-check 1.6% of the films in our entire series were recalled for further study.

Schwartz and Berman[5] reported 4.5% of 10,549 patients had some abnormality of the cardiac silhouette, whereas in the present study only 0.06% of 141,843 were recalled because of cardiac abnormality. This apparent discrepancy is easily explained because in addition to enlarged or abnormal configuration of the heart, those authors included distorted aortic shadows. Since our primary target is tuberculosis, we did not include dilated or tortuous aortic silhouettes and other "minor" abnormalities in our cardiac recalls.

Guiss[6] states that Philadelphia has a reported survey rate of 260 neoplasms per 100,000 males over 45 years of age (as compared to 55 per 100,000 in Los Angeles County). He found 967 pulmonary neoplasms (0.05%) in 1,867,201 chest minifilms, of which 214 were bronchogenic carcinoma. Our yield is less fruitful (16 neoplasms in 141,843 photofluorograms or 0.01%). One may explain the difference on the lowered age incidence of service personnel and because of pre-employment physical disqualification of older civilian applicants. A survey such as this presents a cross section of thoracic diseases of which the more important are tuberculosis, cardiac enlargement and neoplasms. By early detection it thereby enables one to retard or eliminate such diseases. Aside from tuberculosis, other incipient thoracic abnormalities may be uncovered, thus enabling the patient to seek appropriate and timely therapy.

At the Philadelphia Naval Base the changing military census averages about 4,000 men, civilian employees in the Naval Shipyard about 10,000. The servicemen include those of the Armed Forces of the United States and a few from foreign countries. The latter are specifically mentioned because of their potential influence as a health hazard; for example, several months ago eight cases of tuberculosis (not included in this survey), of which five were proven active, were discovered among the crew of a foreign submarine.

These men mixed freely with our shipyard employees and military personnel for a brief period prior to their prompt detection and isolation.

Within its limitations, mass photofluorographic survey is the most accurate and economical method of screening a population. Its value depends on dual reading of the films, careful evaluation of recalls and thorough follow-up of the patient.

Summary

During the years 1952 through 1954 inclusive 141,843 photofluorograms using 70 mm. films were taken at the Medical Dispensary of the Philadelphia Naval Base. Recalls were indicated in 2,268 cases suspicious of pathologic changes but only 1,874 reported for 14 × 17 plates. Of these 1,874 cases, there were 176 pulmonary infiltrations, 84 cardiac enlargements and 16 pulmonary neoplasms, demonstrating the diagnostic value of a mass roentgenographic survey.

Acknowledgment

The authors are indebted to HM1 Edward C. McIntyre, USN, Mr. Harry Rose, and Miss D. Gene Ganakis for invaluable assistance in collecting and collating the data on which this review is based.

References

[1] Birkelo, C. C., Chamberlain, W. E., Phelps, P. S., Schools, P. E., Zacks, D. and Yerushalmy, J.: Tuberculosis Case Finding: Comparison of Effectiveness of Various Roentgenographic and Photofluorographic Methods. J.A.M.A. 133: 359-366 (Feb. 8) 1947.

[2] Bircher, J. L. and Castle, C. A.: Evaluation of Photofluorographic Chest Surveys in the U. S. Navy. U. S. Armed Forces Med. Jour. 6: 951-957, July 1955.

[3] Yerushalmy, J.: Statistical Problems in Assessing Methods of Medical Diagnosis, with Special Reference to X-ray Technique. Pub. Health Rep. 62: 1432-1449 (Oct. 3) 1947.

[4] Groth-Petersen, E., Løvgreen, A., and Thillemann, J.: On Reliability of Reading of Photofluorograms and Value of Dual Reading. Acta. Tuberc. Scandinav. 26: 13-37, 1952.

[5] Schwartz, B. and Berman, B.: Incidence of Heart Disease in Mass X-ray Surveys. J.A.M.A. 149: 734-735 (June 21) 1952.

[6] Guiss, L. W.: Mass Roentgenographic Screening as a Lung-Cancer Control Measure. Cancer 8: 219-235, March-April 1955.

MEDICAL EDUCATION WEEK

April 22-28, 1956

Psoriasis—Research and Clinical Conference

By
HENRY J. KLAUNBERG, Ph.D.

THE world-wide interest in the research and clinical aspects of psoriasis was evident at the recent conference on psoriasis held at the New York Academy of Sciences under the sponsorship of The Biological Sciences Foundation, Ltd.

The objectives of this conference were to consider the possible varied approaches to the psoriasis problem in terms of fundamental research and so far as possible to evaluate present clinical methods and to devise a plan for systematic organization of the world's literature on psoriasis as an aid to accelerate basic research and clinical investigations on psoriasis and in the interrelated fields.

The moderator of the Conference was Dr. Henry J. Klaunberg, Executive Director of The Biological Sciences Foundation, Ltd. Active participants included: Dr. Frank C. Combes, Professor of Dermatology and Syphilology, New York University Post Graduate Medical School; Dr. A. Gedeon Matoltsy, Research Associate in Dermatology, Harvard Medical School; Dr. A. Kaminsky, Professor of Dermatology, Buenos Aires, Argentina; Dr. Paul Gross, Clinical Professor of Dermatology, College of Physicians and Surgeons, Columbia University; Dr. Anthony N. Domonkos, Instructor of Dermatology, College of Physicians and Surgeons, Columbia University; Dr. James Q. Gant, Chief Skin and Allied Clinics, Washington Regional Office, Veterans Administration; Dr. John G. Rukavina, Instructor, Dept. of Dermatology, University of Michigan; Dr. Frederick Reiss, Associate Clinical Professor of Dermatology and Syphilology, New York University; Dr. John Groopman, New York City; Dr. Milton Reisch, New York City; Dr. Morris Reschke, New York City; Dr. Joseph Palermo, New York City; Dr. Orlando Canizares, New York City; Dr. Paras Kevas Michaelides, New York City; and Miss Joan Barlow, R. N. Editor, Nurses Notes.

It was the consensus of those present that psoriasis represented a protean and challenging problem of vital interest to many disciplines. It was further repeatedly emphasized by many of the panelists that while an impressive array of clinical data and impressions accumulated over many centuries were available, fundamental approaches to the problem were conspicuous by their almost complete absence.

That the physicians throughout the country were vitally interested in this problem became apparent when Dr. Klaunberg summarized the preliminary results of a questionnaire he had prepared dealing exclusively with the enigma of psoriasis, which had been sent to dermatologists throughout the world. Statistical results seemed to indicate that the pathogenetic process embraced four broad areas of dysfunction: metabolic derangement, genetic aberration, endocrine dysfunction, and psychic disturbances. While those who adhered to the concept of metabolic dysfunction were in the majority, review of the available clinical literature would tend to support with equal force any of the possible causes proposed.

Dr. Combes, Professor of Dermatology and Syphilology, New York University Post Graduate Medical School, briefly summarized the many facets of the psoriatic state emphasizing that these represented primarily clinical impressions. He further suggested that the statistically significant occurrence of arteriosclerotic heart disease, diabetes mellitus and other disease states in psoriasis wherein fat metabolism might be deranged, required careful investigative re-evaluation. He then referred to his favorable experiences with an oral pancreatic preparation (Lipan—fortified powdered pancreas, Spirt & Co., Inc., Waterbury, Conn.). This sub-

stance in his opinion seemed to re-enforce the possibility that psoriasis might in some manner be related to lipid aberration. Further study in this broad area was suggested by him.

About fifteen years ago Dr. Combes arranged for a complete review of the world's literature on psoriasis. The project continued for over a year and resulted in about a dozen bound volumes of typed synopses of articles translated from all languages. It covered everything published during the last five centuries.

It was evident from this study that there are many features about psoriasis that impress one with its importance as an indication of a metabolic disturbance, predominantly in the utilization of lipids. In over 60% of patients there is a family history of diabetes, atherosclerosis and rheumatoid arthritis.

In a series of more than one hundred cases on which Dr. Combes had done lipid studies there was appreciable evidence of disturbance in fat metabolism with, in many instances, abnormal liver function tests. An unusually large number of patients had been overweight, had low basal metabolic rates, ran low pulse rates and body temperature levels.

He concluded that there are three general methods of approach to this problem of fat intolerance; first, one may restrict the ingestion of fats; second, one may administer enzymes in the form of a fortified pancreatin, such as Lipan; or one may administer lipotropic substances, lecithin, sitosterol and thyroid. Certainly in all instances fat intake should be minimal and alcohol interdicted. In approximately 65 per cent of patients it is possible to establish a complete remission of the cutaneous lesions or keep them at a minimum by means of a low fat regime and the administration of Lipan. Most cases of psoriasis also show high uric acid values but probably this is a common feature in cases of elevated serum lipids and requires no special attention.

Dr. Matoltsy, Research Associate in Dermatology, Harvard Medical School, emphasized the need for the study of normal and abnormal keratinization of the epidermis especially as related to psoriasis. During the past four years he and his associates have studied the structure and composition of the cornified epithelium and the protein components of the deeper layer of the normal human epidermis. Biochemical studies have shown the cornified epithelium to be a complex and as yet little demonstrated chemical moiety. Similar studies utilizing psoriatic scales demonstrated an increase in "soluble" and lipoid substances. It was of interest to note that even in the peripheral "target" tissue (skin) there was in part a suggested abnormality in fat metabolism.

Dr. Reiss, Associate Clinical Professor of Dermatology and Syphilology, New York University, correlated the clinical features of the disease and was impressed that psoriasis seemed to be a disease caused by a variety of "stress" situations. It was his opinion that the neuro-vegetative-endocrine system was closely linked with the disturbed keratinization of the skin. To him hormonal relationships were important since it seemed to be a clinical truism that pregnancy and liver damage (jaundice) resulted in an alleviation of the dermatologic state. His investigation to date indicates that psoriatics have demonstrated ascorbic acid deficiency, fat glucose tolerance curves, diminished 17-Ketosteroid excretion, and hypotension. The foregoing data suggested to this student of the disease a pituitary-adreno-cortical functional derangement.

Dr. John G. Rukavina, Department of Dermatology, University of Michigan, underscored the need for a "frontal attack" utilizing a basic research frame of reference. He went on to suggest that clinical reports might have to be relegated to a position in keeping with their role in the overall problem. He lauded the concept of a review of the world literature on psoriasis primarily because such a study might uncover previously unavailable basic research experiences.

Dr. Rukavina then went on to elaborate the basic research approach to this problem by the University of Michigan Dermatologic Research group. The fundamental approach emphasizes four areas of metabolism which according to current concepts appear to be significantly interrelated: the role of nitrogen metabolism, the possible importance of dynamic sulfur metabolism as measured by radio-activity (S35), the interrelationship of lipids and lipo-proteins to these complex processes, and the possible significance of metallo-protein complexes as conceivably exemplified by radio-active arsenic studies. It is to be noted that these approaches do not represent isolated and unrelated research techniques, but rather that they point to an integrated and related metabolic continuum requiring emphasis upon their appositional relationships.

Studies currently in progress have as their aim the placement in proper perspective of sulfur balance and urinary sulfur partitions, nitrogen balance, free electrophoresis of serum. Sulfhydryl and disulfide blood levels including glutathione determinations, and blood amino acid studies and urinalyses utilizing chromatography are also being done. Due to the importance of lipids and lipoproteins in carbohydrate and protein metabolism it is further planned to apply newer research tools (free electrophoresis, ultracentrifugal analysis of serum lipoprotein, zone electrophoresis utilizing the starch column) to the psoriatic state. Work at this laboratory with these modalities has shown that at least in some dermatologic conditions lipoprotein aberrancies seem to play an important role. It is further planned to broaden the sulfur balance studies with radioactive motion (S^{35}) and to expand upon the meager knowledge of metallo-protein complexes by means of radioactive arsenic (A77).

Dr. Rukavina further emphasized that these overall metabolic concepts are in full harmony with a direct research approach to the problem. With such a broad vista the attack would encompass the skills of the rheumatologist, the endocrinologist, the biochemist, the geneticist and the psychiatrist. That this correlated program represents long term and imaginative research is readily admitted. Such an undertaking would require the aid of non-governmental and governmental research agencies. By means of this bilateral approach it is conceivable that effective and significant scientific progress might be made.

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EDITORIALS

The Red Cross

WHEN disaster strikes, as surely it does in the lifetime of individuals and communities, it is consoling to know that in America we have organizations which exist for the sole purpose of helping our fellow man. One of these organizations, The American Red Cross, is known to all of us.

Not supported by appropriated funds from Congress, but by individual contributions, the Red Cross has expended millions to help millions. No request is too small, no disaster too large to receive this organization's most careful attention.

March, for some years now, has been the month set aside for showing our appreciation to the American Red Cross for the magnificent job it is doing for our nation. We are asked to contribute to its support this month.

The Red Cross has given freely; let each one of us contribute in the same spirit. Individuals who have benefited should readily give though it be only a small contribution. Others who have not needed the help need to give to enable those who have not been so fortunate to again rise and help themselves. Self-help is the aim of the Red Cross. A helping hand is needed when one is down and out, and asks for a fresh start. The Red Cross has been doing this for years. It is part of the daily job. Such help costs money, but pays big dividends toward good citizenship.

Who can tell when and where disaster may strike? The answer is simple—no one. The Red Cross with its wide-spread organization is ready to act in any disaster or personal emergency. On short notice this organization can throw its machine into high gear.

The American Red Cross belongs to every American. It exists for our sole benefit. It exists because we need it. Its need has been manifested time after time. Let us hope that we shall never need to call upon the organization for help, but let us also be comforted in knowing that help is waiting if needed. Now is the time to reaffirm our faith in this great American organization—The American Red Cross.

The above editorial appeared in the March 1955 issue of MILITARY MEDICINE. Little did we realize that events to follow in 1955 would bring the nation disasters of the magnitude of the floods in the Northeast and Western sections of our country.

One of the great things about this nation is its readiness to help the other fellow. We have overcome disasters, we have conquered many diseases through our volunteer organizations supported by individuals in all walks of life.

We can not all give millions as some of our foundations have done, but we as individuals can give something to ease the way of our fellow countryman who has been visited by misfortune beyond his individual capacity to cope with that misfortune.

Now again is our opportunity to assist this great national organization—The American Red Cross—on call at all times to serve our fellow man because we make it possible.

I Looked in Five Directions

RECENTLY I stood at the top of the Washington Monument, and looked out at my country.

I looked, in turn, in five directions, and what I saw made me humble even as my heart swelled with pride. More than a great nation lay before me. I saw hope . . . hope

for all mankind . . . a vision that man has sought since the beginning of time.

Hope is such a great thing it defies description except with simple phrases. It appears when the hour is darkest, it makes little things big, it drives men to achieve goals, it is a power difficult to comprehend, the great transformer, the leveler, the mightiest energy on earth today.

As I stood at that hallowed spot, dedicated to the memory of the man who dared to hope for eternal freedom for his countrymen, I bowed my head in wonderment. Many of the same clouds that darkened his sky still threaten us today. Our security, our freedom, our opportunities, our peace . . . all these great hopes, which all seek, are ours only as we earn them.

I looked first to the West, as so many of our forefathers have done before us. The prairies and the plains of a great land lay that way. And beyond the mighty Rockies another plateau teeming with a busy, working people. But out beyond those western shores I saw outposts, ships and bases manned by countrymen far from home—on guard against a threat to all those that I had seen along the way.

I turned quickly to the North, for in this direction was the comfort, the power and the might of our great industries, the unbelievable magnitude of our biggest cities, the concentration of our efforts through the years. And on beyond the cities and the great lakes a friendly neighbor—a friendly people who think and hope as we do. But again I saw a far distant horizon with dark clouds, for far to the north, crouching deep in the arctic regions stood another line of outposts, manned again by countrymen far from their loved ones, on guard against that threat to all of us.

I turned to the East, from whence comes the warmth of the sun each day, to the East from which way came so many of our forefathers, to the East where twice our sons have gone to stop aggression; and here again I saw my countrymen walking lonely guard posts far away. This distant perimeter of defense . . . this thin line of safety stretched so sparsely from the hot sands of Africa to the cold waters of the North seemed all too close when measured by this generation's machines.

To the South I saw an active scene. Factories and green fields, fishing boats and air liners. A panorama of a busy people, hard at work and hard at play. But here and there were training camps where young men studied the art of soldiering, how to live and how to kill, how to watch and how to see, how to guard this nation from that threat I had seen three other ways.

Then I looked the fifth direction. I looked up. And that way there was hope.

And only that way was there peace!

It occurred to me that West or North or East or South, wherever there is man, there is conflict. And the dignity and the freedom of that man, each with his individual rights, is earned or lost according to his own actions. He worships God, each in his own way by the greatest of his rights, and if he has lost that right he must begin again to seek the freedom which is the foundation of our way of life.

There is no "year of crisis" in our time, nor any "period of greatest danger." The threat to freedom is constant. It is everlasting . . . each generation . . . each nation earns or loses that freedom according to its conduct. The basic Rights of man exist for us, but only because we insist on government designated for service to the people who have created it—who maintain it, and who jealously guard its frontiers forever vigilantly against those who seek to destroy the freedom it inspires.

There is no comfort in fear, and as I looked out I did not see a country afraid. I saw people willing and eager to confront their problems, a people confident of their abilities and of each other, a people sure that dignity of each of them is the glory of all of them.

And I looked again to those distant horizons. There was a new light shining upon them, for now they seemed far more than

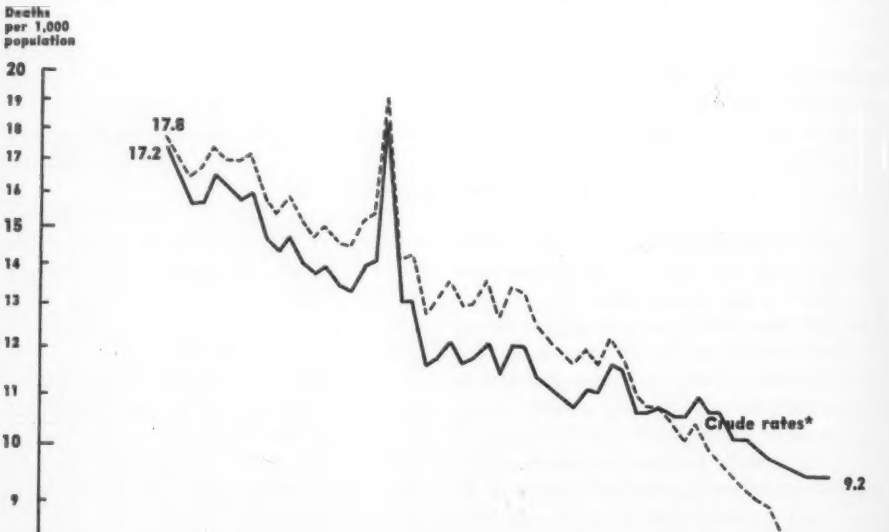
a system of defense. They seemed even more than the evidence of our strength in this divided world. They were not manned by guards—but by honor-guards! Our sons who walk those posts are envoys in a troubled world.

The knowledge and the understanding of the complicated problems of our times demand the serious thought of all. The freedom and the opportunity and the security and the justice of our nation is today the hope of the entire world.

Ours is a tremendous trust that we will not fail.

MAJ. F. S. OTIS, Inf., USAR.
in *The Army Reservist.* Jan., 1956

DECLINING CRUDE MORTALITY—UNITED STATES (1900-1954)



Health Information Foundation, 420 Lexington Avenue, New York 17, N.Y.

Around the World

By

CLAUDIUS F. MAYER, M.D.

U.S.S.R. and its various emissaries, political or otherwise, will grab every opportunity to tell the rest of the world how everything is better in communist Russia than elsewhere. While touring and lecturing in western Europe, A. N. Bakulev, president of the Russian Academy of Medical Sciences, repeatedly praised the superior achievements of *preventive medicine in Soviet Russia.* The great network of health institutions which his government created, the many medical centers and welfare stations reduced the general and specific mortality and morbidity rates in the Soviet states. *Industrial workers* of today's Russia expect to live longer since industrial accidents are one-fourth the number of such accidents during the Czarist era, according to the traveling academician. Occupational poisoning by lead, mercury, anilin, and saltpeter disappeared completely in communist Russia, and the workers are provided with larger rations of food for added protection in certain hazardous occupations, so says Dr. Bakulev.

The president of the Russian Medical Academy also compared the *industrial safety regulations* of his country with those of the United States. Dr. Bakulev asserted, for instance, that Russia does not tolerate such a high *concentration of toxic fumes* in her industrial plants as the United States does. He quoted the following maximum concentrations of industrial fumes (per cubic meter of air) to prove his thesis of Russian superiority in industrial hygiene: (a) for acetone: 0.2 mg. per m^3 air in the USSR, 1.29 mg. in the U.S.; (b) for ethyl ether: 0.3 mg. in USSR, 1.32 mg. in U.S.; (c) for amyl acetone: 0.1 mg. in USSR, 1.12 mg. in U. S. Equally strong health regulations resulted in cutting the rate of *hazards from dust* in Soviet industries, especially of silicosis which in 1946 had been the subject of special research. Russian inspectors of factories will not permit more than 2 mg. of silica dust per cubic meter as the maximum concentration in an industrial environment, while other types of dust is not considered hazardous up to 10 mg. per m^3.

In their propaganda lectures for western consumption, the Russians have published the following comparative mortality figures:

MORTALITY RATE PER 1,000 INHABITANTS
(Russian Data)

Country	*1913*	*1927*	*1953*
United States	13.8	11.3	9.6
England	14.3	12.5	11.4
France	17.7	16.5	13.2
U.S.S.R.	30.2	22.8	8.9

It is easy to see why the communists would claim a 300% (!) drop in the general mortality rate of their country, scolding in the same breath the "capitalist west" for its comparatively slower progress in medical and health affairs.

By way of throwing added light upon the recent Russian proposal for the conclusion of a 20-year "peace pact" with the U.S., we should mention another example of the U.S.S.R. government that has been using every occasion and facility to preach its basic political ideas. Even the local Russian chapters of the Red Cross organization cannot avoid becoming the servants of the communist machine of ideological expansion. A recent announcement of G. Miterev, president of the *Red Cross and Red Crescent societies in the U.S.S.R.*, indicates that, through its national Red Cross and its foreign filials, Russia is attempting to win a number of ideological friends in Asia, Africa, Europe, and America. The Soviet *Red Cross maintains hospitals* in several Asian countries. In Peiping, for instance, the Soviet operates a model hospital which

is both a center for teaching the methods and ideas of Soviet medicine and a training spot for Chinese medical technicians and specialists.

Similar *medical-ideological Soviet centers* are also in existence in other cities of China, in Dalny (the former Dairen or Port Arthur), and elsewhere. A Red Cross hospital was erected at Pyeng-Yang. Other hospitals are functioning at Teheran, and Addis Abeba, while in Afghanistan a medical first-aid station is managed by the Soviet Red Cross. The *Russian hospital in Ethiopia* has been in existence since 1947; under the direction of Soviet doctors it is staffed by native personnel who practice the Russian method of therapy, Vishnevsky's novocain infiltration, Filatov's tissue therapy, etc. The Soviet Red Cross also aided victims of floods and other disasters in the Netherlands, England, Greece, Argentina, Turkey, Egypt, India, and in other countries.

A new type of encephalitis is now afflicting some parts of Soviet Russia. It is called the *Djalangar encephalitis*. The disease was first observed in farmers who had consumed food prepared from contaminated wheat. Several victims died. Those who survived presented the following symptoms:—lesions of the central nervous system (various neural and bulbar manifestations), hypochromic anemia, leukocytosis or leukopenia, and hemorrhagic diathesis. These are perhaps caused by the seeds of a poisonous plant (Trichodesma incanum?) which may occasionally contaminate the wheat crop. (The sickness reminds us of another typically Russian disease of farmers which is also caused by poisonous cereal grain and was described a few years ago on the pages of this journal (Mil. Surg., 1953, 113:173-189; 295-315).

The *health conditions in Red China* were also recently extolled by Lu Tsi-Tsin, Chief of the Health Ministry of that country. Of course, the statistical figures which she quoted are characteristically of the political promotional type:—no absolute figures are given anywhere, and claimed achievements of the communist regime are expressed in such relative terms as "six times more than before the liberation," or "seven times more than in 1947," etc. Even from such relative and vague statements however, some useful information can be gained. Since 1950 the mortality rate of *infectious diseases* has been steadily decreasing in China. Owing to compulsory vaccination, quarantine and other sanitary measures, the epidemics of smallpox, plague, and cholera are now said to be extinct. Other infectious diseases, such as dysentery, recurrent fever, malaria, kala-azar, schistosomosis, etc., are also said to be less frequent since many sanitary "brigades" have been organized to instruct the people in problems of sewage, extermination of mosquitoes and rodents, and the like.

It is said that there are more hospital beds and more *hospitals* are now *in Red China* than before. Attached to the hospitals, more than 2,000 dispensaries were functioning in 1953. The health laws of 1951 and 1952 provide *free medical service* to the workers, government employees, students and the poor families in urban and rural areas. Much has been accomplished also in the field of preventive medicine in industry. The *medical education* also changed, and the course of studies is now shorter for doctors; they have to study 5 years only, while dentists and pharmacists take a 4-year course. Every year, some 20,000 physicians return for postgraduate instruction. The *population of China* is growing at a high birth-rate, owing to a well-outlined program of maternal and child welfare. Such an increase in newborn citizens requires also a large number of special nurses. During the 1947-1953 period, about 270,000 midwives graduated in Red China.

It should be remembered at this point that the present *strength of the Chinese communist Army* is about five million men who are organized into 140 divisions of 11,000 men each. Only about 50% of the Army is well-trained and well-equipped, though. In addition, there is a standing reserve force, the People's Militia, estimated at over 12

million men. From military sources in Bolivia we learn that a 1955 decree of the Council of Ministers of Red China would provide for a *wartime mobilization of all Chinese between* 18 and 40 years of age. Such an army, consisting of about 80 million soldiers, would undoubtedly be the largest in world history. It is hardly possible to mobilize more than 10-15% of the total population of a country. Thus, an army of 80 million would mean a total population of 600 million persons in Red China. Where are the economic means to feed and equip such a huge army? Well, to prepare munitions for a group of such horrible size would require the total industrial output of the U.S., Russia, England, France, and Germany, not to forget the half-million medical officers, dentists, and nurses who would be needed for the medical services of this mammoth army.

Adequate *training of medical troops is essential* for good military medical service. This is one of the medical lessons learned during the least known phase of World War II, the 1943 retreat of the Germans from the inner parts of Russia. It was a time when the medical service of the German Army was beset with many difficulties, including the shortage of personnel. Many medical soldiers (the popular "Sani"-s) were forced to function as "doctors" in the front zone, owing to a lack of medical officers. One of them (now a full-fledged M.D.) recently described his experiences of "Sani" service. He found everywhere that, from the point of view of the simple soldier (the "GI" for us), the greatest need in any armed force is the well-instructed and well-trained medical soldier whose level of knowledge is such that he can independently act in case of an emergency. Modern medicine is so greatly advanced and the man of today, especially the combatant, is so fully dependent on medical service that, without the added help of adequately trained medical troops, a corps of medical officers alone could hardly fulfill all medical expectations of the modern soldier.

A professor of medicine at the University of Naples held a lecture on the *"seven mortal sins"* of women's hygiene. The sins, each of which is a little sister of death, are such fads and fancies as (1) smoking during pregnancy and the nursing period, (2) painting the skin and getting permanent waves, (3) practicing birth-control, (4) being devoted to nudism (N.B. Nudists get duodenal ulcers!), (5) indulging in excessive and violent sports, (6) wearing elastic supports for posture, (7) yearning after a wasp's waist. In the doctor's belief, a special branch of etiology should be established for the study of the pathology of fashion.

German physicians are wondering whether the *German daily bread* is containing sufficient amount of vitamin B_1 (or thiamine). A historical study shows that other nations have also reason to complain in that respect. Thus, England's daily thiamine consumption has been steadily reduced from the 15th century on, when the peasant's daily food contained 4.2 mg. of the vitamin, to the 20th century when a poor man's daily food has only 0.66 mg. of thiamine. Since 1918, the U.S. mills have been producing an avitaminic flour, and 55% of the remainder of milling product is given away to the pigs, says one German doctor. The health condition of the average pig has been steadily improving since 1918. It is therefore feared in Germany that the American "Unsinn" of depriving the wheat of its vitamin and later re-adding vitamins to the flour will be generally welcomed by German millers, too, and the price of bread will rise. The daily consumption of thiamine is now from 0.49 to 1.2 mg. in the U.S. The Germans in 1930 had a daily dose of 0.84 to 0.98 mg. of the same vitamin.

We noticed in a public-health bulletin that *prostitution was finally outlawed in Alaska,* and future offenders would be punished by a fine of $500, and/or confinement to jail for a period up to 90 days. This is a sure sign that the gold rush and the old Klondike days of wine, woman and song are now irrevocably over. . . . *Multa paucis!*

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ASSOCIATION NOTES

Timely items of general interest are accepted for these columns. Deadline is 3rd of month preceding month of issue.

Department of Defense

Ass't *Secretary* (Health & Medical)—Hon. Frank B. Berry, M.D.

Deputy Ass't Sec'y—Hon. Edw. H. Cushing, M.D.

POSTGRADUATE COURSES

The Armed Forces Institute of Pathology has scheduled two postgraduate courses for March: Ophthalmic Pathology, March 19-23 under the supervision of Dr. Lorenz E. Zimmerman, chief of the Ophthalmic Pathology Section; and Pathology of the Oral Regions, March 26-30 under the supervision of Col. Joseph L. Bernier, chief of the Oral and Dental Pathology Section.

ARMED FORCES DAY

Power for Peace will be the theme for Armed Forces Day which will be observed on May 19. "Open House" will be held during the third week of May at all Army, Navy, Air Force, Marine Corps, Coast Guard, National Guard, Reserve forces, Civil Air Patrol, and Ground Observer Corps stations.

SELECTIVE SERVICE

The Department of Defense has requested the Selective Service to provide the Armed Forces with 16,000 men during March; 6,000 for the Army, and 10,000 for the Navy.

HR 7994

This Bill introduced into Congress by Mr. Vinson, Chairman of the House Armed Services Committee and termed the "Armed Forces Dependents Medical Care Act of 1956" has the following provisions: Care for Dependents; (a) in military facilities when capable of handling the patients; through insurance, which would allow for care by civilian physicians. Members of the Armed Forces would contribute 30 percent of the monthly cost, payable by allotment. Participation would be on a voluntary basis for persons on active duty over 90 days and for certain retired personnel.

Medical care would include: diagnosis, treatment for acute medical and surgical conditions, immunization, maternity and infant care, and *emergency* dental treatment.

Your Association supports this Bill and has presented the Resolution which was passed at the 62nd Annual Convention to the Armed Services Committees of the House and Senate.

EQUALITY

Congress has been asked to do something in recognition of the long training period required by physicians and dentists before they can be utilized in their professions in the Armed Services. The legislation proposed provides longevity pay for the four years spent in medical and dental schools, and the internship following.

It is proposed that physicians and dentists should be brought into the military service in the grade of captain and senior lieutenant. This would be more realistic when the age of physicians and dentists is compared to that of other officers coming into the service.

MEDICAL REGULATING OFFICER

CDR William C. Lewis, MSC, U. S. Navy, has been appointed Chief of the Armed Services Medical Regulating Office

which is located in the Main Navy Building, Washington, D.C.

The Armed Services Regulating Office has the responsibility for the evacuation of patients within the continental United States. The position of Chief of this office is rotated among the three services every 18 months.

Army

Surgeon General—MAJ. GEN. SILAS B. HAYS

Deputy Surg. Gen.—MAJ. GEN. JAMES P. COONEY

SGO ASSIGNMENTS

Colonel Thomas E. Patton, Jr., was recently designated Chief of Medical Information and Intelligence Division of the Surgeon General's Office. Colonel Patton recently returned from Europe where he was Commanding Officer of the U. S. Army Hospital at Munich.

Major Elizabeth L. Breitung, ANC, has assumed the duties of nurse administrator in the Medical Plans and Operations Division, of the Office of the Surgeon General. She replaces Major Eileen McCarthy, ANC, who has left for an assignment in Europe.

Lt. Colonel Frederick W. Timmerman, MC, has been appointed Assistant Chief of the Research and Development Division Office of the Surgeon General. He comes to this position from the Walter Reed Army Institute of Research, Walter Reed Army Medical Center.

NEW PUBLICATIONS

Surgery in World War II-Vascular Surgery is the title of a recent volume which has been added to those already published to record the history of the Medical Department of the United States Army in World War II. This particular volume has been edited by Daniel C. Elkin, M.D., and Michael E. DeBakey, M.D. Colonel John B. Coates, Jr., MC, USA, is Editor-in-Chief of the publications. Price $4.25.

Preventive Medicine in World War II—Vol. III—*Personal Health Measures and Immunization* is another volume which deals with the history of the U. S. Army Medical Department. The editor for the 394 page book recently released is Ebbe C. Hoff, Ph.D., M.D. Price $3.25.

These books may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C.

GRADUATION FOR NURSES AT WRAMC

Twelve Army nurses were presented diplomas by Major General Leonard D. Heaton, Commanding General of the Walter Reed Army Medical Center, on January 27 upon their graduation in the Obstetrical Nursing, and Operating Room Nursing and Administration courses which they were pursuing.

The course directors, Major Peggy G. Jones and Captain Kathleen Phillips, hold appointments as faculty members with the Catholic University with which the courses are affiliated. Credit is given for 18 semester hours toward a degree at that institution.

Graduates from the Obstetrical Nursing Course, and their future duty station are: Capts. Bertha B. Keith, Ft. Campbell, Ky.; Anna D'Zurko, Murphy Army Hospital, Waltham, Mass.; Margaret R. Cannon, Ft. Knox, Ky.; Lena M. Tague, Fitzsimons Army Hospital, Denver, Colo.; Margaret R. Stonaker, Camp Chaffee, Ark.; and Patricia A. Ryan, Ft. Leonard Wood, Mo.

Operating Room Nursing and Administration course graduates include Capts. Edyth C. Sheridan, Camp Chaffee, Ark.; Alice M. Metzgar, Walter Reed; Mary M. Skiffington, Wm. Beaumont Army Hospital, El Paso, Tex.; Ann Grozin, Eglin Air Force Base, Fla.; and Eva M. McCarrick, Wright-Patterson Air Force Base, Dayton, Ohio; and Lt. Marcelle H. Netter, Ft. Bragg, N.C.

ADVANCED DENTISTRY STUDENTS

Enrolled in the sixteen-week course in advanced dentistry at the Walter Reed Army Medical Center are: Lt. Colonels Leonard S. Johnston, Jr.; Warren C. Myers, Charles D. Parr, and Major Robert W. Bergmann of the Air Force; Lt. Colonels Robert J.

Rowan, Majors Leo F. Baranowske, John H. Belser, Robert R. Clark, John Clarkson, Thomas K. Goodman, Wendell A. Meikle, Samuel C. Mooney, Robert B. Rowland, Joseph L. Shomo, and Philip C. Wagley, of the Army; and Lt. Colonel Fumio Watanabe of the Japanese Defense Forces Medical Department.

BAMC COMPLETES DECADE

The Brooke Army Medical Center at Fort Sam Houston completed its tenth year of operation on February 1, 1956. The Center is composed of a number of components with Major General William E. Shambora as commander.

Brooke Army Hospital, commanded by Brig. General Stuart G. Smith, has a capacity of 1000 beds. The hospital has been in existence for many years and has played a major role in the care of military patients. It was named after one of the outstanding medical officers of the Army, a physician who was well known as an internist of his day, Brig. General Roger Brooke.

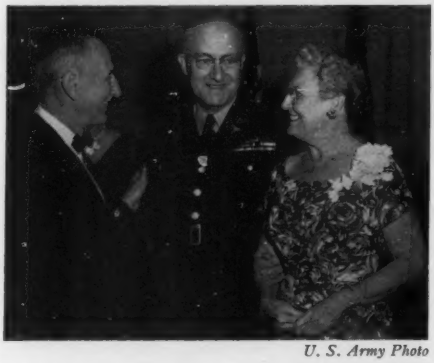
The Army Medical Service School, formerly known as the Medical Field Service School, is commanded by Brig. General Elbert DeCoursey. This school was for some time located at Carlisle, Pa. Since 1947 the school has graduated over 100,000 persons from 16 courses for officers and enlisted men and women.

The Medical Training Center is commanded by Colonel Joseph U. Weaver. Here basic training is given for Medical Service enlisted personnel.

The Fourth Army Medical Laboratory commanded by Colonel C. J. Farinacci, acts not only as a laboratory for the Fourth Army Area but carries on active work in research. The Surgical Research Unit, commanded by Lt. Colonel Curtis P. Artz, has done much work in the field of burn therapy. It is now one of the outstanding centers in the country in that field.

Other components are: the Central Dental Laboratory commanded by Colonel Howard N. Burgin; the Hospital Managements Research Unit, commanded by Major John T. Gray; the 67th Medical Group, commanded by Colonel Joe A. Bain; and the Army Field Medical Service Development Unit, commanded by Colonel John H. Taber.

GENERAL SNYDER VISITS BAMC



U. S. Army Photo

During the recent visit of Major General Oscar Snyder, Chief of the Dental Corps, to Brooke Army Medical Center he met one of the former directors of the dental activities at that military installation, Brig. General Lynn H. Tingay, who is now retired. Pictured above are General Tingay, General Snyder and Mrs. Tingay.

BAMC NEWS ITEMS

Lt. Colonel Charles H. Burman has been assigned as Executive Officer of the 67th Medical Group. The Commanding Officer of this Group is Colonel Joe A. Bain.

Major James W. Dean has been reassigned within the Brooke Army Medical Center as an instructor in military intelligence. He served as Assistant Army Attache in Moscow from 1951 to 1953. He also served in Korea from 1946 to 1948.

Captain Bertha J. Fanjoy, ANC, has been assigned to the Army Medical Service School as an instructor in Hospital Procedures. She received her nurses training at Civic Hospital, Ottawa, Canada. Captain Fanjoy holds Bachelor and Masters degrees from Columbia University in New York.

INTERNATIONAL STUDENTS

At the Army Medical Service School, Brooke Army Medical Center Fort Sam

Houston, Texas, a visitor will find many languages spoken even though the instruction is in English. Enrolled for school courses are 60 students from 16 foreign countries. These officers from Allied Countries come to the United States for advanced study as part of the Mutual Defense Assistance Program. They participate in the same instructions that are given to officers of our own country.

NEW MEMBERS AMSC

U. S. Army Photo

Major Olena M. Cole (center) chief of the Physical Therapy Section at Brooke Army Hospital, Brooke Army Medical Center, is demonstrating in the picture above an Ultrasonic Therapy Unit to the first two men to enter the newly-created Army Medical Specialist Corps. Lieutenants Alfred N. Daniel (*left*) and Sheldon Saffren (*right*) are attending a course at the Army Medical Service School at the Center.

FORT KNOX HOSPITAL

Colonel K. A. Brewer, station surgeon at Fort Knox, Kentucky, has announced that the new hospital being built at that post will be completed in September. This is a 500 bed nine-story building with facilities for extension to 1000 beds.

HONORED

Lt. Colonel Robert Traub, former chief of the Department of Entomology at the Walter Reed Army Institute of Research, Washington, D.C., was recently honored with an award from the Washington Academy of Science.

The Biological Science Award cited Colonel Traub for his "outstanding contributions during World War II in the control of mite-borne scrub typhus in the Malaya area and during the Korean conflict in the control of hemorrhagic fever." Colonel Traub is now on an assignment to Malaya.

HONORED BY GREECE VET SOCIETY

Lt. Colonel Donald C. Kelley, VC, who is stationed in Greece with the Joint U. S. Military Aid Group, has been made an honorary member of the Hellenic Veterinary Medical Society.

The formal presentation of the membership scroll was made by Brig. General N. G. Koemtzopoulos, Chief of the Veterinary and Remount Service of the Greek National Army and Vice-president of the society.

DENTAL OFFICER PARACHUTIST

Major Jack P. Pollock, DC, Assistant Post Dental Surgeon, Fort Myer, Virginia, is a jumper. He recently graduated from the Advanced Airborne Course at the Infantry School, Fort Benning, Georgia, where he received the wings of a Qualified Parachutist and a certificate as a Qualified Jumpmaster. He is the first officer of the Dental Corps to attend the course in ten years.

HELICOPTER SOCIETY

U. S. Army Photo

(L to R) Igor Sikorsky; Capt. Chas. Garrett, USAF, Tyndal AFB, Fla.; LCDR Allen Salts, USN, Ellyson Field, Fla.; Brig. Gen. Carl I. Hutton, Commanding General, Army Av. Ctr.; Capt. R. K. Brown, USMC, Ellyson Field, Fla.

The American Helicopter Society Southeastern Section held a meeting at the Army Aviation Center, Fort Tucker, Alabama, in January. All branches of the Armed Forces were represented, and there were representatives from some of the foreign countries. Mr. Igor Sikorsky, Manager of the Sikor-

sky Aircraft Division of the United Aircraft Corporation, was the guest speaker. The inventor of the first practical helicopter, Mr. Sikorsky, said that there are no limitations to the size of helicopters or to their load carrying capabilities.

NEW UNIFORM

Check the shade of that cloth when you buy the new green uniform. The Quartermaster General has rejected certain materials for use in the new Army green shade 44 because the materials were not within the approved specified weight and color tolerances.

The new AG 44 uniform is not authorized for optional off-duty wear prior to October 1, 1956, nor will it be required for duty wear prior to October 1, 1957. Present indications are that it will not be required for wear by reservists not on active duty prior to 1960.

FLYING AMBULANCE

U. S. Army Photo

This helicopter which was a vital part of the 57th Medical Battalion, Brooke Army Medical Center, was used to transport sick and wounded during "Exercise Moose Horn" staged in Alaska in February. An injured soldier is securely fastened to the side of the 'copter.

Navy

Surgeon General—REAR ADM. BARTHOLOMEW W. HOGAN

Deputy Surgeon General—REAR ADMIRAL BRUCE E. BRADLEY

NAVY NURSES BREAKFAST AT ANA

All Navy nurses, active and inactive, and former Navy nurses, are cordially invited to attend a breakfast get-together during the convention of the American Nurses' Association in Chicago, Illinois.

The breakfast will be held at the Congress Hotel at 7:30 A.M., on Wednesday, May 16, 1956. Tickets may be purchased in the Exhibition Hall Lobby of the Conrad Hilton Hotel, or at the Navy Nurse Corps exhibit.

CAPTAIN KELLUM HONORED

Captain Wilbur E. Kellum, MC, Commander of the Naval Medical Research Institute, National Naval Medical Center, Bethesda, Maryland was recently given the John Jeffries award at the meeting of the Institute of Aeronautical Sciences.

The citation stated that Captain Kellum "has done much to improve the training and qualifications of the Navy's flight surgeons. During World War II he handled the medical portion of the Navy's program for evacuation of the wounded by air. He conceived and directed a night-vision training program for pilots and air crewmen and 20 years ago he pioneered the development of oxygen equipment for aviators."

EXHIBIT IN MEXICO

Captain Thomas J. Canty, MC, Chief of the Amputee Service and Director of the Navy's Prosthetic Research Laboratory at the Naval Hospital, Oakland, California, and eight of his patients and staff were sent by the Surgeon General of the Navy to the Third Congress of the Latin American Society of Orthopedics and Traumatology, Mexico City last January. The invitation to participate was extended by Dr. Alejandro V. Zimbron, president of the Congress.

Captain Canty presented a paper on "Rehabilitation of Amputees and Modern Artificial Limbs" and exhibited some of the newest types of artificial limbs. He was accompanied to the Congress by LCDR Charles C. Asbelle, MSC, USNR, and Chief Hospitalman Douglas Nations, assistants at the California laboratory.

MEDICAL AND DENTAL SYMPOSIUM

"Developments in Military Medicine and Dentistry with Special Emphasis on Atomic Warfare, Special Weapons, and Isotopes" will be the theme topic at a three-day symposium sponsored by the Commandant of the First Naval District, Boston, Massachusetts, on March 21, 22, and 23.

Among the prominent speakers are:

Honorable Christian Herter, Governor, Massachusetts; Dr. Frank Berry, Ass't Secretary of Defense (Health and Medical); Rear Admiral Bartholomew, Surgeon General of the Navy; Rear Admiral Ralph W. Malone, Ass't Chief of Bureau of Medicine and Surgery for Dentistry; Brig. General Elbert DeCoursey, MC, U. S. Army, Commandant, Army Medical Service School; Dr. George M. Lyon, Ass't Chief Medical Director for Research and Education, U. S. Veterans Administration; Dr. Charles L. Dunham, Director, Division of Biology and Medicine, Atomic Energy Commission; and Dr. Shields Warren, Professor of Pathology, Harvard Medical School.

The Symposium has been approved for retirement point credit for those in the Armed Services Reserve Programs. Further information can be obtained from the District Medical Office, First Naval District, 495 Summer St., Boston 10, Massachusetts.

NEW COURSES

Two new courses of study are now available to inactive Reserve Medical Department officers enrolled in Naval Reserve Officer Schools.

These courses parallel the correspondence courses on the same subject, and in addition to earning retirement points for attendance in scheduled classes, each course provides six points to be credited for purposes of promotion. The courses are: *Public Information* (No. 184)—20 drills; and *Security of Classified Matter* (No. 185)—20 drills.

RETIREMENT POINTS AUTHORIZED

The Dental Officer Mass Casualty Treatment Training Program covers the following subjects:

a. Dentistry—an aid in disaster
b. Battle dressing station duty
c. Psychological first aid
d. Field anesthesia
e. Head and neck wounds
f. Chest wounds
g. Abdominal wounds
h. Control of hemorrhage
i. Fractures
j. Cricothyroidotomy
k. Resuscitation
l. Burns
m. Shock
n. Parenteral therapy
o. Medicament
p. Dressings, bandages and splints
q. Transportation
r. Radiation injury

At the request of the Bureau of Medicine and Surgery, the Chief of Bureau Personnel has authorized one retirement point credit for each session of not less than two hours on any of the above subjects. This training may be in connection with any military or civilian dental organization, but *must* be given by Armed Forces Personnel.

RETIRED

The following officers were recently retired: Captains Henry G. Bullwinkel, MC; Norris M. Hardisty, MC; John R. McIntyre, DC; John M. Whalen, MC; Commander Alvis B. Dickson, MC; and Lieutenants Vernon M. Burkett, MSC; Isabelle C. Ensweiller, NC; and William A. Lesher, MSC.

Air Force

Surgeon General—MAJ. GEN. DAN C. OGLE
Deputy Surg. Gen.—MAJ. GEN. W. H. POWELL, JR.

NONEFFECTIVENESS

From the *U. S. Air Force Medical Service Digest* we learn that noneffectiveness in the Air Force is decreasing. In 1951 the ratio per 100,000 was 1,409; in 1952 it was 1,263; and in 1953 it was 1,115.

Factors responsible for this trend are

given as: the cessation of Korean hostilities which reduced the influx of recruits, who generally are especially susceptible to infectious and contagious illnesses; treatment of patients on an outpatient basis where formerly many were "admitted" (to hospital or quarters); high standards in the selection of personnel, maintenance of an effective preventive medicine program, and the provision of optimum facilities for local medical care.

DOCTOR, PILOT, PARACHUTIST

Air Force Photo

Major Burt Rowen, USAF (MC) is back at the Air Force School of Aviation Medicine, Randolph Air Force Base, Texas, after spending four years in Stockholm, Sweden. He is one of two officers in the Air Force who hold the triple aerial rating of pilot, parachutist, and flight surgeon. His assignment to Randolph AFB, however, is only temporary since he is pursing a course of instruction at the school. Major Rowen will become Surgeon of the Flight Test Center at Edwards Air Force Base, California.

PRESIDENT IN PAN AMERICAN ASSOCIATION

Dr. Brittain F. Payne, clinical professor of ophthalmology, New York University College of Medicine, was elected president of the Pan American Association of Ophthalmology at its quadrennial meeting in Santiago, Chile, in January.

During World War II Dr. Payne served with the Air Force as a flight surgeon. He was an instructor at the School of Aviation Medicine, Randolph Field, Texas, and later served in the Pacific Theater as a consultant in ophthalmology. In recognition of his war service he was awarded the Legion of Merit. Since 1951 he has been a civilian consultant to the Surgeon General of the Air Force.

HONORED

Major Nathan Cooper, USAF (MSC), has recently been elected to the Alpha Lambda Chapter of Rho Chi National Pharmacy Honor Society, University of California Medical Center, San Francisco. He is a recent graduate of the University of California course in hospital administration.

Major Cooper is on duty as Professor of Military Science and Tactics of the Reserve Officers' Training Corps program in Pharmacy at the University.

Public Health Service

Surgeon General—LEONARD A. SCHEELE, M.D.

Deputy Surg. Gen.—W. PALMER DEERING, M.D.

TO STUDY TUBERCULOSIS

Indian children of New Mexico and Colorado will be studied for tuberculosis by the Phipps Institute of the University of Pennsylvania. The contract entered into by the Public Health Service calls for field studies and the administration of drugs to assist in the prevention and treatment of the 8,700 children among the United Pueblos, Consolidated Utes, and the Jicarilla and Mescalero Apaches.

Dr. Scheele, Surgeon General of the Public Health Service has stated that the incidence of tuberculosis among the Indians is about 9 times that of the non-Indian population in the United States.

RESEARCH FUNDS

Funds for research at the National Institutes of Health, Bethesda, Maryland are expected to total a substantial increase in fiscal year 1956 over those funds spent in 1955. In 1957 there will be a further increase.

We might put it this way: the National

Institutes of Health spent $76,670,000 for research in 1955; in 1956 there will be an expenditure of $93,184,999 (estimated); for the fiscal year 1957 it is estimated that $114,603,000 will be spent.

These funds take care of research at the National Institutes of Health in the fields of: heart disease, cancer, mental health, arthritis and metabolic diseases, neurology and blindness, dental, and microbiological.

NIH APPOINTMENT

Dr. Roderick Murray has been appointed as Director of the Division of Biologics Standards at the National Institutes of Health, Bethesda, Maryland. Dr. Carl L. Larson, who has been the acting director has returned to his former duties as Director of the Public Health Service's Rocky Mountain Laboratory, Hamilton, Montana.

ALLERGY INSTITUTE OF NIH

The National Institute of Allergy and Infectious Diseases is the new name given to the former National Microbiological Institute at the National Institutes of Health, Bethesda, Maryland.

Surgeon General Scheele said, "the renaming of the Institute reflects the importance of the new research program on allergies and the close relationship of such research with the study of infectious diseases. Investigations of allergy are closely allied to the science of immunology, which is also fundamental to investigation of the infectious and parsitic diseases."

SEEDING OF MALIGNANT CELLS

Do tumor cells remain in a surgical wound and cause the recurrence of the tumor? Drs. Robert R. Smith and Albert W. Hilberg, National Cancer Institute, Bethesda, Maryland are studying this problem.

These doctors have made their first report in the Journal of the National Cancer Institute, the title of their paper being "Cancer Cell Seeding of Operative Wounds." Operative sites were washed with saline solution and the washings studied. In 36 cases studied, washings contained cancer cells in 10 instances, and in 5 cases the washings were suspected of containing malignant cells; in 21 cases there was no positive evidence of residual tumor. Following these cases for a period of 21 months the doctors found that 5 of the 36 cases have developed recurrent disease in the operative area (2 where washings were positive, 1 where washings were suspicious, and 2 in which the washings showed no tumor cells).

HEPATITIS

It is encouraging to look at the 1955 rate for hepatitis. There was a considerable decrease in the number of cases (31,340) over the number reported for 1954 (49,739). The downward trend was reported in an editorial in this journal in August. Incidentally in that editorial we mentioned a 55¢ booklet on *Viral Hepatitis* (Cat. No. FS 2.2:H 41) which is obtainable from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.

DIPHTHERIA

The overall rate for diphtheria showed a slight increase (9 percent) for the last half of 1955 when compared for the same period for 1954. We immediately wonder about the increase since the value of immunization has been established for many years. Re-emphasis on the matter of diphtheria immunization is probably in order.

WHO APPOINTMENTS

Dr. Frederick J. Brady, Assistant Chief of the Division of International Health, U. S. Public Health Service, has been appointed United States member of the Executive Board of the World Health Organization by President Eisenhower. At the same time the President named Dr. Charles W. Mayo, Professor of Surgery of the Mayo Foundation Graduate School, University of Minnesota, as alternate member of the Executive Board.

PG COURSE IN VENERAL DISEASES

The 25th Venereal Disease Postgraduate Course for physicians sponsored by the University of Washington School of Medicine and the Public Health Service will be given in Seattle on March 19-23, 1956. This course is accredited by the American Academy of General Practice.

Applications for admission (no tuition charged) should be sent to the University of Washington School of Medicine, Division of Postgraduate Medical Training, Harbor View Hospital Annex, 325 Ninth Ave., Seattle 4, Washington.

Veterans Administration

Chief Medical Director—WILLIAM S. MIDDELTON, M.D.
Deputy Chief Med. Dir.—R. A. WOLFORD, M.D.

APPOINTMENT

Dr. Charles C. Capple, an associate professor at the University of Pennsylvania School of Medicine and senior physician to the Children's Hospital in Philadelphia, has been appointed chief of contractual research for the Veterans Administration Department of Medicine and Surgery. He succeeds Dr. Theodore S. Moise who becomes a special assistant to Dr. George M. Lyon, assistant chief medical director for research and education.

ASSIGNMENTS

Dr. Arvin E. Trollinger has been assigned as manager of the Veterans Administration Hospital in Lyons, New Jersey. He was formerly at Marion, Indiana. He succeeds the late Dr. Crawford N. Baganz.

Dr. Leon L. Rackow has been appointed manager of the VA hospital in Montrose, New York. He was the director of professional services at the hospital. He succeeds the late Dr. Richard L. Harris.

Dr. Eric P. Stone has been appointed manager of the VA hospital in Manchester, New Haven. He was formerly director of professional services at the hospital in Boston.

Dr. Endre K. Brunner has been named as the manager of the VA hospital in the Bronx, New York.

RESIDENCY TRAINING

Residencies in Psychiatry are available at the Veterans Administration Hospital, Lyons, New Jersey, for periods from one to three years. These are fully accredited by the American Board of Psychiatry and Neurology. The program offers intensive training, both intramurally and through rotation in special hospitals and clinics in the area. Training may commence at any time. Address the Director, Professional Education at the hospital.

VETERAN POPULATION

The number of veterans in civil life at the end of November 1955 was 22,088,000: Korean conflict—4,292,000 (including 841,000 having World War II service also); 14,552,000 World War II (only); World War I—3,112,000; other wars and regular establishment—132,000.

The average patient day load in hospitals, mostly VA hospitals, was 113,994. The outpatient load was 176,007 visits.

PRISONER OF WAR MONOGRAPH

A Follow-up Study of World War II Prisoners of War is the title of a medical monograph recently prepared by the Veterans Administration. This can be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. for $1.50.

Miscellaneous

HOSPITAL DISASTER DRILLS

During the week May 6-12 the American Hospital Association will sponsor National Health Week as a week of community education about hospitals. Wednesday, May 9, will be set aside as the day on which empha-

sis will be placed on special disaster drills for hospitals.

To assist hospitals in their planning the American Hospital Association will publish two booklets—*Principles of Disaster Planning for Hospital* and *Readings in Disaster Planning for Hospitals.*

The address of the American Hospital Association is: 18 East Division St., Chicago 10, Illinois.

DENTAL ABSTRACTS

The American Dental Association is now publishing a new journal entitled "Dental Abstracts." This journal contains summaries of articles from all of the important dental journals of the world.

The annual subscription price is $6 per year in the United States and $7 outside the country. Subscriptions can be placed by writing the American Dental Association Subscription Department, 222 E. Superior St., Chicago 11, Illinois.

HONORED

Mrs. Helenor Wilder Foerster, former chief of the ophthalmic pathology branch of the Armed Forces Institute of Pathology was recently awarded the Leslie Dana Gold Medal for 1955 by the St. Louis Society for the Blind. She was selected by the National Society for the Prevention of Blindness.

While with the Institute Mrs. Foerster completed studies in nematode ophthalmia and toxoplasmosis in ophthalmology. She now lives in San Francisco and is still active as a consultant to the Armed Forces Institute of Pathology.

HONORED IN CUBA

Dr. Carlos P. Lamar, from the Clinical Faculty of the University of Miami Medical School was recently honored as a guest speaker at the Cuban Society of Gastroenterology during the Fifth Panamerican Congress of Gastroenterology held in Havana.

Dr. Lamar, who is a member of our Association, spoke on "Fractionated Normocaloric Diet Low in Fats and High in Sugars in the Management of Hepatic Diseases and Diabetes."

CHART AVAILABLE

How to Sterilize Surgical Gloves is a chart giving in detail the steps necessary in the sterilization of surgical gloves. Copies of these charts are available at no cost by addressing a request to: Pioneer Rubber Company, Surgical Division, Willard, Ohio.

TOBACCO RESEARCH FUND

More money has been given to the Tobacco Industry Research Committee. This time $500,000 is the amount which now brings the total to $1,500,000 in allocations.

Dr. Clarence C. Little, scientific director of the Committee and chairman of the Scientific Advisory Board has said that "it is the Board's desire to stimulate still further research into basic health problems, and concurrently, into specific questions concerning smoking and health."

GENERAL PRACTITIONERS MEET

The Eighth Annual Scientific Assembly of the American Academy of General Practice will meet in Washington D.C., from March 19-22. On March 21 Dr. John S. DeTar, Milan, Michigan, will be installed as the president of the Academy. He succeeds Dr. John R. Fowler, Barre, Massachusetts.

BLOOD BANK MEETING

The site of the 9th Annual Meeting of the American Association of Blood Banks previously scheduled for Cincinnati, Ohio, November 4-7, 1956, has been changed. The meeting will be held September 3, 4, 5, 1956 at the Somerset Hotel in Boston, Massachusetts. Inquiries should be directed to Miss Marjorie Saunders, Secretary, 725 Doctors Building, 3707 Gaston Avenue, Dallas, Texas.

PAMA CONGRESS

The Tenth Inter-American Congress of the Pan American Medical Association will

be held in Mexico City, April 15-21, *1957*. Further information may be obtained from the President of the Association Dr. Pedro A. Gutierrez Alfaro, Minister of Sanitation and Public Welfare of Venezuela or the Executive Director, Dr. Joseph J. Eller, 745 Fifth Ave., New York, New York.

CANCER CONFERENCE

The American Cancer Society and the National Cancer Institute of the Public Health Service will jointly sponsor the Third National Cancer Conference in Detroit, Michigan, June, 4, 5, and 6. More than a thousand research scientists and clinicians, including many from foreign countries, are expected to attend. All physicians are invited to attend. Copies of the conference program and advance registration cards may be obtained from the National Cancer Conference Coordinator, American Cancer Society, 521 West 57th St., New York, 19, New York.

NEW ORLEANS MEETING

The American College of Gastroenterology (Southern Region) will hold a one day meeting in the auditorium of the Louisiana State University School of Medicine, commencing at 2:00 P.M. Sunday, April 8. All physicians are invited to attend.

AMERICAN GOITER ASSOCIATION

The 1956 meeting of the American Goiter Association will meet in the Drake Hotel, Chicago, Illinois, May 3, 4, and 5. Further information can be obtained by addressing the Secretary, 149½ Washington Ave., Albany, New York.

MEETING

The Second International Congress on Medical Records will be held at the Shoreham Hotel, Washington, D.C., October 1-5, 1956. Further information may be obtained by addressing the American Association of Medical Record Librarians, 510 North Dearborn Street, Chicago 10, Illinois.

AMA SCIENTIFIC EXHIBITS

A book of 800 pages, mostly photographs, of the scientific exhibits at the American Medical Association Convention at Atlantic City, June 1955 is now available at the price of $20 per copy.

This book which has a buckram binding was published for the American Medical Association by Grune and Stratton, New York City. For those who were unable to attend the meeting the opportunity is now afforded through this book to study the scientific exhibits. For those who did attend the meeting and see the scientific exhibits a leisurely review will be welcomed.

PUBLIC SCHOOL ENROLLMENT

The enrollment in public schools is expected to increase from about 30,500,000 (in the fall of 1955) to 37,300,000 in 1959-60. The figure for 1949-50 was given at 25,070,000.

Honor Roll

Since the publication of our last list, the following sponsored one or more applicants for membership in the Association:

Lt. Col. Robert H. Brooks, USAF (MC)
Col. John Boyd Coates, Jr., MC, USA
Major Thutchai Dhirathumrong, RTA
Dr. James Ewing
Major Gen. Alvin L. Gorby, MC, USA
I. Hanenson, M.D.
Col. R. E. Hewitt, MC, USA
Lt. Col. Charles F. James, Jr., MC, AUS
Major Donald V. Leddy, MC, USA
Brig. Gen. James A. McCallam, USA, Ret.
Major Gennady E. Platoff, MC, USA
Col. Ross C. Speir, Sr., MC, USAR
Lt. Col. Lloyd R. Stropes, MC, USA
Col. M. S. Thompson, MC, USA
Brig. Gen. H. H. Twitchell, USAF (MC)
Capt. S. S. Wald, DC, USNR

OBITUARIES

Col. Ziba L. Henry, U. S. Army, Ret.

Ziba Lindly Henry, Colonel, U. S. Army, retired, died in Letterman Army Hospital, October 16, 1955, at the age of 82.

Colonel Henry received his medical degree from Starling Medical College, Columbus, Ohio, in 1896. He entered the Medical Reserve Corps of the Army in 1908. He served during World War 1 and attained the rank of lieutenant colonel. In 1920 he entered the Regular Army and served until 1936 when he was retired. He was advanced to the grade of colonel on the retired list November 17, 1943.

Maj. Robert E. Hale, Aux. Res., U. S. Army

Robert Eugene Hale, Major, Aux. Res., U. S. Army, died October 24, 1955, at Bellamy, Ala., at the age of 80.

Major Hale received his medical degree in 1904 from Chattanooga Medical College. He served in the Army during the Spanish-American War and World War 1. He was a member of the American Academy of General Practice; past president of the Sumter County Medical Society; on the staff of Bellamy Hospital; and was a member of the Association of Military Surgeons of the United States.

Col. Robert D. Maddox, U. S. Army, Res., Ret.

Robert Daniel Maddox, Colonel, U. S. Army Reserve, Inactive, retired, died November 16, 1955, at the age of 79. He received his medical degree at the Medical College of Ohio, Cincinnati, in 1900. He was active in Reserve affairs of the Army. During World War I Colonel Maddox was professor of orthopedic surgery at the Army Medical School in Washington, D.C. After the war he resumed his practice of orthopedic surgery in Cincinnati. In June 1948 he was retired from the Inactive Reserve. Colonel Maddox was a Fellow of the American College of Surgeons and a Life Member of the Association of Military Surgeons.

CDR Claude A. Angonnet, U. S. Navy, Ret.

Claude A. Angonnet, Commander, U. S. Navy, Retired, died at the Naval Hospital, Oakland, California, December 31, 1955 at the age of 68.

Commander Angonnet entered the Naval Service as an Assistant Dental Surgeon on December 14, 1917 and served at the Naval Training Station, San Francisco during 1917-1918. He was then released to inactive duty in 1919, but returned to active duty in 1921. Until retired from the naval service in 1944, Commander Angonnet served in naval hospitals and naval and marine stations throughout the United States and abroad. He is survived by his wife, Mrs. Leta A. Angonnet, 405 Argonne Blvd., San Mateo, California.

Col. Henry C. Bradford, U. S. Army, Ret.

Henry C. Bradford, Colonel, U. S. Army, retired, died at Walter Reed Army Hospital on January 5, 1956 at the age of 70.

Colonel Bradford was a native of Virginia

and received his medical degree from the University College of Medicine, Richmond, Virginia, in 1908. He joined the Army Reserve Corps in 1912 and in 1916 was called to active duty. In 1917 he was commissioned in the Regular Army Medical Corps and served until his retirement in January, 1944.

Colonel Bradford is survived by his widow: Mrs. Marian L. Bradford, 406 Brook Drive, Falls Church, Virginia, and one daughter, Miss Marian C. Bradford.

Interment was at Arlington National Cemetery.

LETTER TO THE EDITOR

TO THE EDITOR:

Problems with enteric infections and associated diarrhea unfortunately occur during travel, especially in foreign countries. Having learned from several sources that the use of Vioform (or Enterovioform) is good prophylaxis against these disorders, I requested a supply of these tablets for the U. S. Team during the Pan American Games held in Mexico City in March, 1955.

For the ideal study it would have been preferred to have half of the participants take the medication and the other half not or to have been given placebos. From a practical point of view, this would not have been advisable and certainly would have been considered unfair.

Although the tablets were given to both the male and female members of the team, control and supervision over the male group was a little more close so that more adequate estimation of the effects would be ascertained. There was a total of 361 persons (275 men and 86 women) officially connected with the team that attended the Games. They began to arrive ten days before competition started.

Vioform was administered in the following manner: one tablet was given to each person at each meal during the first two days; one tablet to each person at two meals for the next two days, and thereafter one tablet daily. During the first ten day period, only two cases of dysentery developed and both were men who had not taken the tablets. Members of teams from other countries not taking the medication had considerable difficulty with diarrheas, and when they learned what these tablets were for, they asked if they could take them. Due to the generous quantity which had been given by the CIBA Company, no objection was raised until the supply ran low near the end of the Games. Then we were called stingy when we stopped outside use.

During the actual competitions, which ran fourteen days, 49 cases of enteritis or gastroenteritis developed among the men. Three cases were of sufficient severity to require bed rest, but none missed competition. Eleven extended more than 24 hours, of whom three had delayed recurrence. No bloody stools were reported at any time. Stool studies could not be made to determine the causative organism, if any.

It is of interest to note that the first upsets appeared in the first squads to go into action and followed across the board as the others began. This suggests that the tension of competition in the high altitude may have had something to do with it. Later talks with Americans who have resided in Mexico City for fifteen years or more revealed that they invariably experience a short diarrhea if they mix heavy exercise with heavy eating. Ninety percent of the men having trouble ate heavily and especially consumed large quantities of milk.

The women ate at a second center which was also used by other countries. Their record of illness was kept by a nurse but does not contain the detailed information available for the men. It is not known how many of the women actually took medication. There were 86 women in this group of which there were 15 who developed diarrhea. Three required bed rest and one missed competition because of diarrhea.

It is not possible to draw a scientific conclusion from these data, but judging from the opinion of several persons who were also at the Pan American Games in South America in 1951, there was much less trouble at the 1955 Games when the Enterovioform tablets were used.

HARRY R. MCPHEE, M.D.
U. S. Team Physician
McCash Infirmary, Princeton
University, Princeton, N. J.

Constitution and By-Laws of the Association of Military Surgeons of the United States

PREAMBLE

THE Medical Service Officers of the Army, of the Navy, of the Air Force, of the Public Health Service, of the Medical Reserves of the United States, of the National Guard of the Several States, and of the Veterans Administration, under the provisions of an Act of Congress approved January 30, 1903, have associated themselves together under the name of "The Association of Military Surgeons of the United States." Now, therefore, pursuant to the laws of the United States, the members of said Association do hereby ordain and enact the following:

CONSTITUTION

ARTICLE I

NAME

The Association shall be known as "The Association of Military Surgeons of the United States."

ARTICLE II

OBJECT

The object of the Association shall be to increase the efficiency of its membership by mutual association and by the consideration of matters pertaining to the medico-military service of the United States both in peace and war.

ARTICLE III

MEMBERS

SECTION 1. Members shall be classified as Active, Life, Ex-officio, Honorary, and Sustaining.

Only Active and Life members are eligible to office or entitled to vote.

SECTION 2. The following are eligible to active membership when duly elected thereto:

(a) Those who are, or have at any time been, commissioned officers in the Medical Department (or Service) of the Army, the Navy, the Air Force, the Public Health Service, the National Guard, the Reserves, the U. S. Volunteers, and Acting Assistant or Contract Surgeons of these services.

(b) Regularly appointed members of the Medical Service of the Veterans Administration and those who have been such.

(c) Officers of the military medical services of other nations.

(d) Medical Department Officers of the Indian Service.

(e) Those who are, or have been consultants to the Chiefs of the Federal Medical Services.

(f) Medical Personnel attached to the office of the Assistant Secretary of Defense (Health and Medical).

Life Members

SECTION 3. Life membership, and exemption from payment of annual dues, is conferred upon:

(a) Ex-Presidents of the Association.

(b) Those upon whom it is conferred by vote of the Executive Council.

(c) Any Active member upon payment of a lump sum of one hundred ($100) dollars, and those who have been active members continuously for forty (40) years or more.

Ex-officio Members

SECTION 4. The Secretary of Defense, the Secretary of the Department of Health, Education and Welfare, the Secretary of the Army, the Secretary of the Navy, the Secretary of the Air Force, and the Administrator of Veterans Affairs, in conformity with the Act under which this Constitution is adopted, shall be ex-officio members of the Association, while holding their respective offices.

Honorary Members

SECTION 5. Foreign delegates and distinguished persons who attend officially, or by special invitation, the annual meetings of the Association are eligible to Honorary membership.

Also for special reasons, in absentia, the chiefs of military medical services of other nations and dominions, and distinguished medical officers of other nations.

Sustaining Members

SECTION 6. The following are eligible to Sustaining Membership:

Commercial firms engaged in the production of scientific and technical products used by the Federal medical services.

ARTICLE IV

GOVERNMENT OF THE ASSOCIATION

Advisory Board

SECTION 1. There shall be an Advisory Board consisting of the Secretary of Defense, the Secretary of the Department of Health, Education and Welfare, the Secretary of the Army, the Secretary of the Navy, the Secretary of the Air Force, the Surgeon General of the Army, the Surgeon General of the Navy, the Surgeon General of the Air Force, the Surgeon General of the Public Health Service, the Assistant Secretary of Defense (Health and Medical), the Chief Medical Director of the Veterans Administration, and the President of the Association. The Secretary of the Association shall serve as Secretary of the Board without vote.

Officers

SECTION 2. The officers shall be as follows:

(a) A President and six Vice-Presidents who shall be elected from and to represent in rotation the Army, the Navy, the Air Force, the Public Health Service, the National Guard, the Medical Reserves, and the Veterans Administration.

(b) A Secretary.

These officers shall hold office until their successors are elected and accept office.

Executive Council

SECTION 3. There shall be an Executive Council to consist of the officers and seven members who shall be appointed each year by the President from the Medical Services of the Army, the Navy, the Air Force, the Public Health Service, the National Guard, the Reserves, the Veterans Administration, and the Chairmen of the Sections. Additional members will be appointed to represent Sections which may have been created by a resolution of the Association.

Committees

SECTION 4. The following Standing Committees may be appointed annually by the President when and if the need for their services occurs:

A Publication Committee of five or more members of which the Secretary shall be ex-officio Chairman.

A Committee of Arrangements for the Annual Meeting, not all of whom need be members of the Association.

A Nominating Committee on which each constituent service shall be represented and have a vote.

A Committee on Legislation to be appointed when deemed necessary by the President after consultation with the Executive Council.

A Sinking Fund Committee to consist of the President, who shall be ex-officio Chairman, the Secretary who shall act as Secretary and the Custodian of the Fund, and the three Ex-Presidents who have most recently served as such.

A Committee on Chapter Affairs of three members of this Association who, during their service thereon shall not be officers or members of the Executive Council.

At the first business session of each annual meeting the President will appoint a Committee on Resolutions, to which shall be referred all motions or resolutions brought before the meeting which are not passed unanimously. The Committee shall report on all such motions before the end of the annual meeting, and, if it recommends

the adoption of any motion, shall prepare it in the proper form for adoption.

A Sustaining Membership Committee consisting of six active members of the Association representing the Medical Services of the Army, Navy, Air Force, Health, Education, and Welfare Department, and Veterans Administration, to include a chairman from one of the Federal Medical Services; and six members to represent industry.

Article V

seals, insignia and arms

Seal

Section 1. The seal of the Association shall consist of a circle, one and three-eighths (1⅜) inches in diameter, charged with the cross of the insignia with the words "Organized in 1891, Incorporated by Congress 1903," within a circumferential band bearing the words, "Association of Military Surgeons, United States."

Insignia

Section 2. The insignia of the Association shall comprise (1) a Cross; (2) a Ribbon; (3) a Rosette; (4) an Enamel Lapel bar, and (5) Lapel button and pin consisting of the Association Cross.

(1) The Cross shall be of Gold, the obverse enameled with red and bordered with gold, upon which shall be superimposed a white shield, inclosing a shield of the United States in its proper colors—red, white and blue—surrounded by the motto, *"Omnia pro Patriae Caritate"*; the reverse, plain gold and bearing its number. Upon the reverse may also be engraved the name and address of the owner. The cross, suspended by a ribbon, consisting of two bands of crimson inclosing a band of white, may be worn by any member of the Association on ceremonial occasions, and shall be carried on the left breast—or at the collar, if the wearer be an officer of the Association.

(2) The ribbon to be worn with the civilian dress shall consist of a piece of ribbon three-sixteenths of an inch wide of the official colors of the Association, to be tied in the upper left-hand button-hole of the civilian coat and around the lapel with a knot to the rear.

(3) and (4) The Rosette and Enamel Lapel Bar of the Association colors.

(5) The Lapel Button and Pin consisting of the Association Cross.

The Coat of Arms

Section 3. The Coat of Arms shall be as follows: Quarterly, First: Sanguine, a caduceus for Army. Second: Or, an oak leaf and acorn proper for Navy. Third: Argent, a caduceus and an anchor in saltier azure for Public Health Service. Fourth: Azure and Argent, the Union as borne on the American Flag for the National Guard.

Surcharged—The Badge of the Association, proper.

Crest—An Eagle displayed, proper, bearing on breast a Geneva Cross.

Article VI

quorum

Thirty-five (35) members shall constitute a quorum for the transaction of business, (but a less number may adjourn.)

Article VII

amendments

All amendments to this Constitution shall be proposed in writing at one annual meeting and voted on at the next after the views and recommendations of the Executive Council have been considered. A two-thirds vote of all the members present at the meeting shall be necessary for adoption.

An amendment proposed or adopted by the Executive Council may be passed at any regular meeting of the Association provided it has been published beforehand in three not consecutive numbers of Military Medicine (formerly the Military Surgeon), the official journal of the Association.

Article VIII

sinking fund

Such funds belonging to the Association as are not needed in current requirements

shall, upon order of the Executive Council, be placed in the hands of a committee to be known as the Sinking Fund Committee. The Sinking Fund shall be invested in Government or other bonds, first mortgages up to 60 per cent of the appraised value, preferred stock of corporations which have paid dividends for the preceding five years, and common stock of corporations which have paid dividends for the preceding seven years, such dividends being not less than 4 per cent per annum, approved by the Committee, or deposited in an approved trust company until so invested and no money shall be withdrawn from this fund except upon a majority vote of the Sinking Fund Committee and of the Executive Council voting separately in session or by letter. When the withdrawal is thus approved, it shall be made by an order on the Secretary signed by the President of the Association. The custodian (the Secretary) of the fund shall be bonded in such sum as the Committee shall determine, and his accounts, and all the securities and funds of the Association shall be audited annually and at such other times as the committee may require.

Article IX

SECTIONS

SECTION 1. Sections may from time to time be created by resolution of the Association to preserve the identity and the personal relations of members of other organizations having like patriotic aims with The Association of Military Surgeons which may at any time unite with it.

Sections shall have such officers and organization as they may elect and determine, not in conflict with the Constitution and By-Laws of The Association of Military Surgeons, and may have such social and business meetings as they may determine upon: Provided that the membership of these sections shall be limited to members of the Association, and the dates and programs of their meetings shall not conflict with those of the Association.

Article X

LOCAL CHAPTERS

Local Chapters may, when authorized by the President of the Association, be created in cities or other localities where a suitable number of members may be brought together for the purpose of maintaining an interest in military medicine and the promotion of comradeship. They may have such officers, organization, and meetings as they may elect and determine, not in conflict with the Constitution and By-Laws of the Association. The members of a chapter shall be likewise members in good standing of the Association.

BY-LAWS

Article I

ELECTION OF MEMBERS

SECTION 1. Active members shall be elected by the Executive Council to whom the Secretary shall refer all applications together with such credentials as may be presented.

Honorary Members

SECTION 2. Election to Honorary membership shall be by two-thirds vote of the Association, after the unanimous recommendation of the Executive Council.

Sustaining Members

SECTION 3. Election to Sustaining Membership shall be by a two-thirds vote of the Executive Council upon the approved applications submitted by the Sustaining Membership Committee. Rules governing Sustaining Membership shall be those formulated by the Executive Council.

Article II

EXPULSION FROM MEMBERSHIP

Any member who may be dismissed from the service for conduct unbecoming an officer and a gentleman, or who may be

guilty of such conduct though then not a member of the service, may be expelled and debarred from any further rights or privileges when proper proof has been furnished. Such action shall be taken by the Executive Council subject to the approval of the Association at its next annual meeting.

Article III

Meetings

The Association shall meet annually, the time and place to be fixed at each meeting for the one ensuing. If this selection is delegated by the Association to the Executive Council, the latter shall announce the place selected within six weeks after the meeting.

At the annual meeting the President and Vice-Presidents shall be elected for the term of one year, the annual report of the Secretary and reports of Standing and Special Committees received and other business transacted.

In order to preserve the military character of the Association it is desirable when practicable, that the members attend the meetings and social gatherings in such uniform as they are entitled to wear by reason of present or previous service.

Article IV

Dues and Magazine

Section 1. The annual dues and subscription to the official journal of the Association shall be six ($6.00) dollars a year, payable in advance, and this amount shall accompany all applications for membership. Delinquency for one year shall terminate membership after due notice by the Secretary, but the official journal shall be stopped at the beginning of such delinquency. Members so dropped may be readmitted at any time, without election, upon payment of the annual dues and subscription.

Section 2. Honorary, Ex-officio, and Life members shall be exempt from payment of dues and subscription.

Official Magazine

Section 3. The subscription to the official magazine, Military Medicine (formerly *The Military Surgeon*) shall be for all subscribers who are not members, seven dollars and fifty cents ($7.50) for the United States and its possessions, and eight dollars and fifty cents ($8.50) for all other countries.

Article V

Duties of the Advisory Board

The Advisory Board shall meet at such times as the interest of the Public Service may require, especially when matters of an international character are considered. Meetings may be called by one or more of the three senior members of the board, and one of these and three other members shall constitute a quorum.

Any action taken by the Board shall be reported to the Executive Council and the Association through the President of the Association.

Article VI

Duties of Officers

Section 1. The President when present shall preside at all meetings of the Association. He shall call meetings of the Executive Council and preside at them. He shall appoint all committees and perform such other duties as are incumbent upon such an officer under the accepted rules of parliamentary practice.

The Vice-Presidents

Section 2. The Vice-President in order of seniority shall perform the duties of the President in the absence or inability of that officer.

The Secretary

Section 3. The Secretary shall keep the minutes of the meetings, the records and archives of the Association; receive all applications for membership and refer them to the Executive Council; issue certificates of membership to Honorary Members on election, and to Active and Life members when the necessary fee has been paid; and shall hold office until his tenure is terminated by resignation or death, or by the election of his successor.

He shall be Editor of the official magazine and as such shall be a member and ex-officio chairman of the Publication Committee.

He shall employ with the approval of the Executive Council such assistants as needed.

He shall receive all moneys due the Association, collect all assessments, and pay all proper bills.

The accounts of the Secretary shall be audited by an officer of the Finance Department of the Army or of the Bureau of Supplies and Accounts of the Navy, or a certified public accountant as soon as possible after the end of the fiscal year (September 30) and at such other times as the Executive Council may require.

SECTION 4. The Secretary shall be the custodian of the Sinking Fund which shall be accounted for in his annual report.

SECTION 5. The Secretary in his annual report shall state the number of members from the Army, Navy, Public Health Service, National Guard, Medical Reserve, Veterans Administration, and other members, and also in the following classes: Life Members, Active Members in good standing, Active Members delinquent, Active Members dropped under Art. IV, Sec. 1, of the By-laws, Active Members resigned, Members deceased.

This report shall show all receipts, disbursements, and outstanding debts of the Association.

SECTION 6. Members in good standing shall be those who are not in debt to the Association and none other shall be allowed to vote.

SECTION 7. The Secretary shall submit to the President a monthly statement of the finances of the Association.

SECTION 8. The Executive Secretary shall act as Assistant to the Secretary and shall perform all the duties of that office during any period of his absence or incapacity.

ARTICLE VII

THE EXECUTIVE COUNCIL

SECTION 1. The Executive Council shall be charged with the conduct of the affairs of the Association during the intervals between the annual meetings, shall elect active members, and perform such other duties as may be assigned to it by the Constitution and By-Laws or by vote of the Association at any stated or special meeting. It shall temporarily fill all vacancies occurring among the officers of the Association between annual meetings. It shall prescribe the conditions of award of the Wellcome Prize and other prizes, medals and awards given by the Association.

Conduct of Business

SECTION 2. The business of the Executive Council may be conducted by correspondence or at such meetings as may be called by the President upon his own initiative or at the request of any three members. The Secretary shall keep a record of such correspondence and of the minutes of the meetings of the Council.

Officers

SECTION 3. The President, and the Secretary of the Association, respectively, shall be ex-officio chairman and secretary of the Executive Council.

Quorum

SECTION 4. Five members of the Executive Council in meeting shall constitute a quorum for the transaction of business. In correspondence a majority of the whole Council shall govern.

ARTICLE VIII

STANDING COMMITTEES

SECTION 1. The Publication Committee shall assist the Secretary in the procuring of papers and other literary material for the magazine and shall advise him as to its policies and management.

SECTION 2. The Committee of Arrangements shall under such instructions as they may receive from the President make all local arrangements for the annual meetings of the Association.

SECTION 3. The Nominating Committee shall at the annual meeting present a list of

candidates for the several offices for the ensuing year.

After the report of the Committee is made and before it is put to a vote, the Chair shall give opportunity for nominations from the floor.

The Sinking Fund Committee

SECTION 4. The Sinking Fund Committee shall meet at the call of the President when occasion arises. A report of such meetings shall be made by the Secretary at the annual meeting.

Board of Award

SECTION 5. The Board of Award for the Wellcome Prize and Medal shall be composed of the Vice-Presidents of the Association. No award shall be given unless a majority of the Board vote for one candidate. The Board shall report its decision to the Executive Council before the annual meeting. The Secretary shall act as secretary, without vote, to the Board. No officer of the Association or member of the Executive Council shall compete for any prize or medal offered by the Association. No man shall receive the Wellcome Prize and Medal more than once except that a man receiving Honorable Mention would be eligible for the Prize and Medal.

ARTICLE IX

THE MAGAZINE OF THE ASSOCIATION

The Association shall publish a monthly magazine to be known as MILITARY MEDICINE which shall be the agency of communication between the members, and publish to them matters relating to the specialty of military medicine and so keep them abreast of the progress of this science throughout the world. In it shall be printed the proceedings of the annual meetings, and such other matter as is determined upon by the Secretary, under the orders of the Executive Council. The Secretary of the Association shall be the Editor except when an Editor is elected by the Association or the Executive Council.

The Secretary shall manage the business affairs of the magazine and show the receipts and expenditures connected with it in his monthly statement to the President.

ARTICLE X

AMENDMENTS

All proposed amendments to these By-laws must be forwarded to the Secretary, who will present them to the Executive Council at least three months before the next annual meeting. The proposed amendments and views of the Council shall be published in the magazine of the Association before the annual meeting, at which meeting they may be adopted by a two-thirds vote of all the members present.

ARTICLE XI

ANNUAL MEETING

Formal Meeting

1. Invocation.
2. Address of Welcome.
3. Address of the President.
4. Introduction of Foreign Delegates.
5. Program.
6. Honors Night.

Business Meeting

1. Report of Secretary.
2. Report of Retirement Fund Board.
3. Reports of Committees.
4. Election and Installation of Officers.
5. Other Business.

ARTICLE XII

RETIREMENT PLAN AND FUND

SECTION 1. There is hereby created a Retirement Fund to be used and administered for the use and benefit of the staff of this Association in accordance with the Plan specified in this Article.

SECTION 2. The Executive Council shall from time to time appoint a board of three trustees to be known as the Retirement Fund Board of Trustees, each to hold office for a term of three years and until their succes-

sors have been appointed and have qualified, except that the first Board of Trustees shall consist of three members, one to hold office for one year, one to hold office for two years, and one to hold office for three years respectively.

SECTION 3. The Executive Council shall have the power to fill vacancies in said Board of Trustees and to remove any trustee for cause.

SECTION 4. The Board of Trustees shall annually elect their own Chairman, Secretary, and Treasurer and shall have charge of the administration of the Retirement Fund, subject to the directions of the Association and Executive Council.

SECTION 5. The Retirement Fund shall be constituted by setting aside and paying to the Treasurer of the Retirement Fund Trustees four percent (4%) of the current income of the Association, including all of any income or funds set aside and specified to be for said fund, including accretions on the capital belonging to said fund but excluding accretions on the capital of the Association which are not a part of said Fund.

SECTION 6. The Treasurer of said Board of Trustees shall be required to give said Board a bond approved by said Board, to account to said Board for the funds in his hands from time to time and for the faithful discharge of his duties and in amount commensurate therewith. It shall be the duty of said Treasurer to furnish said Board of Trustees with a detailed and itemized annual report and account of the funds received and disbursed by him not later than thirty days before the convening of the annual meeting of the Association, and such other reports and accounts as may be required by said Board of Trustees or by the Executive Council. Said Board of Trustees shall render a written annual report of its business and activities, a part of which shall be the current annual report and account of its Treasurer, at each annual meeting of the Association. The accounts of said fund shall be subject to the same auditing procedure as now applies to the accounts of the Secretary of the Association. This fund may be invested by the Board of Trustees in Government Bonds or deposited in a bank or trust company until so invested or until used for the purposes of said fund.

SECTION 7. After honorable retirement of any member of the staff who has been continuously employed by the Association for at least ten years, semi-annual payments, on May 1 and November 1 of each year, shall be made to such former employee out of the Retirement Fund up to a maximum of one-half per cent of his average annual salary for the last five years of service, for each year of service, so long as the Board of Trustees has satisfactory evidence of his survival. In calculating this semi-annual payment, a proportional amount shall be included for any fractional part of a year above the complete years of service, provided that after such employee reaches the age of 70 years, no further years or fractional part of a year of service shall be included for the purpose of calculating the amount of these payments. If retirement takes place more than a month preceding the next May or November 1, partial payment shall be made to the retired employee, within one month after retirement, of an amount proportional to the time elapsing between retirement and the next due semi-annual payment.

SECTION 8. Whenever the amount of the Retirement Fund on hand is inadequate to make the above described payments if all the members of the staff were to be considered as retired, the fund available shall be allocated provisionally to the different members and former members of the staff in proportion to the maximum semi-annual payments which would be made to them in case of retirement, and only that amount paid to any retired employee which would accrue to him by reason of such allocation.

SECTION 9. To be eligible for honorable retirement, the services of the employee must be satisfactory at the time of retirement; retirement must not be due to the

misconduct of the employee; and the termination of the employment of the employee must be agreeable to the Association. The decision as to satisfactory employment, as to misconduct, and as to agreeability to the termination of employment will be made by the Executive Council of the Association.

SECTION 10. After this By-law has been finally adopted by the Association, the time of the commencement and of the continuance of operation of the Retirement Plan by the granting and payment of benefits thereunder, shall be determined and ordered by the Executive Council. The details of the administration of the Retirement Plan and Fund including the determination of what persons are entitled to receive retirement benefits, shall be handled by the Board of Trustees, subject to review by the Executive Council.

SECTION 11. It is the intent and a condition of this Plan that the granting and payment of benefits hereunder is a voluntary and gratuitous act on the part of the Association and that this Plan shall not be construed as a part of or obligation of the Association, under any contract of employment and that the Plan may be discontinued at any time.

SECTION 12. Any of the provisions of the present Constitution and By-laws of this Association which may conflict with the provisions of this Article XII shall be deemed repealed or amended insofar as may be necessary to give full effect to this Article.

(Dec. 1, 1955.)

MEETING—NEW YORK CHAPTER

ASSOCIATION OF MILITARY SURGEONS OF THE U.S.

MARCH 22, 1956—MITCHELL FIELD, N.Y.

Inspection tour—5:00 P.M. AT OPERATIONS OFFICE

Cocktails—6:00 P.M. *Dinner*—7.00 P.M.

Officers Club Price $3.15

Bring the Ladies

CAPT. H. EASTON MCMAHON, MC, USNR, SECRETARY

105 EAST 53RD ST., NEW YORK 22, N.Y.

NEW BOOKS

Vascular Surgery in World War II, edited by Daniel C. Elkin, M.D. and Michael, DeBakey, M.D., Supt. of Documents, U. S. Government Printing Office, Washington 25, D.C. Price $4.25.

Handbook of Physiology and Biochemistry, by R. J. S. McDowall, M.D. McGraw-Hill Book Co., Inc., New York, N.Y. Price $9.00.

Planning New Institutional Facilities for Long Term Care, by Edna Nicholson. G. P. Putnam's Sons, New York, N.Y. Price $4.50.

A Course in Practical Therapeutics, 3rd ed., by Rehfuss and Price. The Williams & Wilkins Co., Baltimore, Md. Price $15.00.

Textbook of Public Health & Welfare, by Davies. The Williams & Wilkins Co., Baltimore, Md. Price $6.75.

Operative Dental Surgery, 7th ed. by Parfitt and Herbert. The Williams & Wilkins Co., Baltimore, Md. Price $7.00.

The Habit of Tobacco Smoking, by W. Koskowski, M.D. John de Graff, Inc., New York, N.Y. Price $5.00.

Complications of Regional Anesthesia, by Daniel C. Moore. Charles C Thomas, Publisher, Springfield, Ill. Price $10.50.

Integrated Gynecology, Principles and Practice, by I. G. Rubin, M.D. and Josef Novak, M.D. 3 volumes. The Blakiston Division, McGraw-Hill Book Co. New York, N.Y. Price $60.00.

Life Stress and Essential Hypertension, by Stewart Wolf, M.D. et al. The Williams & Wilkins Co., Baltimore, Md. Price $7.50.

A.M.A. Scientific Exhibits 1955. Grune & Stratton, Inc., New York, N.Y. Price $20.00.

Laboratory Manual for Introduction to Pharmacy, 3rd ed., edited by Henry M. Burlage, Ph.D. The Blakiston Division, McGraw-Hill Book Co., Inc. New York, N.Y. Price $4.50.

Anatomy for Surgeons, Vol. 2, Thorax, Abdomen and Pelvis, by W. Henry Hollinshead, Paul Hoeber, Inc., Med. Book Dept. of Harper & Bros., New York, N.Y. Price $20.00.

Microbiology, with Applications to Nursing, by Catherine J. Witton, M.A. McGraw-Hill Book Co. Inc., New York, N.Y. Price $6.00.

Current Therapy, 1956, by 295 American authorities. Edited by H. F. Conn, M.D. W. B. Saunders Co., Philadelphia, Pa. Price $11.00.

Basic Surgical Skills, by Robert Tauber, M.D., F.A.C.S. W. B. Saunders Co. Philadelphia, Pa. Price $3.75.

Preventive Medicine in World War II. Vol. III—Personal Health Measures and Immunization. Editor-in-Chief Col. John Boyd Coates, Jr. MC, USA. Editor for Preventive Medicine Ebbe Curtis Hoff, Ph.D., M.D. Supt. of Documents, U.S. Government Printing Office, Washington 25, D.C. Price $3.25 (Buckram).

Physiotherapy in Some Surgical Conditions, by Joan E. Cash, B.A.M.C.S.P. J. B. Lippincott Co., Philadelphia, Pa.

Impartial Medical Testimony. A Report by a Special Committee of The Association of the Bar of the City of New York. The Macmillan Co., New York, N.Y. Price $3.95.

Kill or get Killed. Manhandling Techniques for Police and the Military, by Lt. Col. Rex Applegate. The Military Service Publishing Co. Price $3.00.

The Interpretation of the Unipolar Electrocardiogram, by Gordon B. Myers, M.D. The C. V. Mosby Co., St. Louis, Mo. Price $4.75.

Poliomeylitis. Papers and Discussions presented at the Third International Conference. J. B. Lippincott Co., Philadelphia, Pa. Price $7.50.

Handbook of Poisons, by Robert H. Dreisbach, M.D., Ph.D. Physicians' Record Co., Chicago, Ill. Price $3.00.

Handbook of Toxicology. Vol. I Acute Toxicities of Solids, Liquids and Gases to Laboratory Animals. Edited by William S. Spector. W. B. Saunders Co., Philadelphia, Pa. Price $7.00.

Pathologic Physiology. Mechanisms of Disease, by William A. Sodeman, M.D. 2nd ed. W. B. Saunders Co., Philadelphia, Pa. Price $13.00.

Diseases of the Liver, edited by Leon Schiff, M.D. J. B. Lippincott Co., Philadelphia, Pa. Price $16.00.